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NOVEMBER 10, 2005

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From: Eduardo Nieto
To: Evelia Rodriguez; William Beckman
Date: 11/10/2005 1:46:23 PM
Subject: Fwd: Comments on Perchlorate BMPs

>>> "Dick Wilson" <DWilson@anaheim.net> 11/10/05 12:56 PM >>>
November 10, 2005

Edward Nieto
DTSC
Perchlorate Best Management Practices

Mr. Nieto:

Thank you for the opportunity to comment on the October 25, 2005 draft of the proposed Best Management Practices for Perchlorate Materials. The City of Anaheim operates a community water system serving approximately 350,000 residents. We have experienced explaining to our residents the presence of trace levels of perchlorate in the water supply and it's clear that our customers prefer water without any perchlorate. While it's unclear how much perchlorate from discarded road flares ends up in drinking water supplies, it's prudent public policy for partially burned flares to be retrieved and properly disposed because flares contain a significant amount of perchlorate, perchlorate is extremely soluble, it doesn't degrade significantly in the environment, and the acceptable amount in drinking water is very low.

The requirement to pick up and dispose partially burned flares had been included in prior versions of the BMPs, but has since been removed, perhaps at the urging of public safety agencies who say it's dangerous to retrieve flares in some situations. Perhaps it would be reasonable to strike a compromise position in the BMPs that requires partially burned flares to be recovered when it is safe to do so.

Thank you for your consideration of these comments. This issue is extremely important to water purveyors. Many water agencies may not have commented on earlier versions of the BMPs because provisions for picking up flares had been included.

Sincerely,

Dick Wilson
Environmental Services Manager
Anaheim Public Utilities Department
714-765-4277

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A31-L480-HTS-L-05-080

10 November 2005

**SUBJECT: COMMENTS ON OCTOBER 25th PERCHLORATE BMP
DRAFT LANGUAGE**

TO: Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812

ATTN: Eduardo Nieto

The Boeing Company (Boeing) is pleased to provide the following comments regarding the October 25th draft of the perchlorate BMP regulation. Boeing operates two space launch facilities on Vandenberg Air Force Base, California where it launches the Delta II and Delta IV rockets from Space Launch Complex 2 and Space Launch Complex 6 respectively. Both of these launch vehicles use Graphite Epoxy Motors (GEM) to help boost them into orbit. The GEM-40 is used on the Delta II and the GEM-60 is used on the Delta IV. The GEM-40 and GEM-60 are identical in composition, but differ in size. These solid rocket motors (SRM) are manufactured by Alliant Tech Systems, based in Utah.

§ 67384.3 Definitions, “Combustion Residuals and Explosive Residuals:

There is still confusion as to the difference between combustion residuals and explosive residuals of solid rocket motors used to boost launch vehicles into orbit. Clarification of these definitions will improve understanding of § 67384.2 “Applicability” exemption number 6 for “combustion residuals of perchlorate materials.”

During a “nominal” (normal) launch, all of the perchlorate-containing material is consumed, and there will be no residual perchlorates left behind.

In the event of an “anomaly” (propellants ignite or explode prematurely), chunks of non-combusted perchlorate materials may be left behind. These chunks would be subject to § 67384.3, “Spill response best management practices for non-hazardous perchlorate materials”.

Boeing suggests that the following language be added to the two definitions:

”Combustion residual” means any paper, ash, wire, or other physical material that remains after the perchlorate material has been substantially consumed, *including residual from nominal launches of solid rocket motors or propellants.*

“Explosive residuals” means perchlorate-containing material after the use of high explosives, pyrotechnics, fireworks or *debris from anomalous launches of solid rocket motors or propellants*.

§ 67384.7 Notification requirements for perchlorate materials

1) Boeing does not manufacture or process solid rocket motors. They are combusted as part of the launch sequence. Should this activity be considered “...used by your business?” Boeing suggests another category, “Consumed during explosive combustion.”

2) During the meeting on November 1st, DTSC representatives stated that this notification was a one-time only event, and was meant to assess the number of businesses that have or use perchlorate-containing materials and may not otherwise report them. DTSC also stated that affected businesses should already be reporting these materials on Business Plans or other documents required by other regulations, but may not be knowledgeable enough to do so. DTSC stated that it was desirable to minimize duplicative reporting.

Boeing suggests that the notification could be used to determine if a business has already completed a Business Plan or other report for the perchlorate-containing materials. If the answer is “yes”, DTSC should waive the requirement to complete the rest of the notification form. This would allow DTSC to scope the universe of perchlorate-users, but also eliminate duplicative reports for the same material.

Boeing suggests the following questions at the top of the form; “Did your business include perchlorate-containing materials in it’s latest Business Plan update?” and “Does your business report on the use of perchlorate-containing materials through another regulatory agency? If so, which one?”

Businesses that answer yes to either question would not need to complete the rest of the form.

This would help DTSC meet their scope objectives, and would also minimize duplicative information submittals.

§ 67384.11 Perchlorate restrictions

Boeing wishes to clarify that in the case of monitoring for perchlorates under existing stormwater monitoring requirements, no testing for perchlorates will

occur until after a solid-rocket-motor-assisted-launch-vehicle has flown from an individual launch site.

This concludes Boeing's comments on the October 25th Perchlorate BMP Draft Language. Boeing appreciates DTSC's effort to incorporate previous Boeing comments in this regulation.

Should you have any questions, please do not hesitate to contact Ms. Rhonda Cardinal at (805) 606-6340 x6566.

Sincerely,

Original signed by:

Harley T. Santos, Jr.
Manager
Safety, Health, and Environmental Affairs
Delta II/IV Launch Operations
Vandenberg AFB, CA

HTS/rec/cma

CALIFORNIA AGRICULTURE COALITION

November 10, 2005

Mr. Eduardo Nieto
Department of Toxic Substances Control
Hazardous Waste Management Program
Regulatory and Program Development Division
California Environmental Protection Agency
PO Box 806
Sacramento, CA 95812-0806

VIA ELECTRONIC DELIVERY

Dear Mr. Nieto:

The undersigned agricultural organizations appreciate the opportunity to submit comments detailing our concerns with the draft perchlorate BMPs and rationale for the alternative approach contained in the attached mock-up.

As mentioned at the November 1, 2005 workshop, we in the agricultural community are concerned that the Department of Toxic Substances (DTSC) is moving to develop regulations on agricultural products without consulting with the appropriate policy or technical staff at the California Department of Food and Agriculture (CDFA). Furthermore, we fail to understand why perchlorate containing fertilizers, which have been deemed safe by the United States Department of Agriculture and the United States Environmental Protection Agency, cannot be exempted from the proposed regulation. While we appreciate the fact that DTSC is operating under a statutory mandate created by AB 826 (c.608, stats.2003), it has created exemptions for other products that either pose no environment threat or are adequately regulated elsewhere. Fertilizers could be exempted under either of these categories.

The following points articulate our specific concerns with sections of the proposed regulation and restate some of the testimony provided at the November 1 workshop.

End Users: It is inappropriate for DTSC to regulate end users of perchlorate-containing fertilizers for the following reasons: (1) Fertilizers are not a hazardous waste, but are instead a valuable soil amendments that provide key nutrients when applied to farmland; (2) Farmers, landscapers, nursery operators, greenhouse managers and even

homeowners commonly receive training on proper handling and use of fertilizers from dealers and retailers, university extension professionals, or regional or state officials; (3) The trace quantities of perchlorate in some commercially-available fertilizer blends are typically mitigated through weather, irrigation or microbial breakdown; and (4) After years of fertilizer use by California agriculture, not one site ties perchlorate contamination to agricultural fertilizers. We feel strongly that the BMP requirements of the proposed rule should not apply to any end user of fertilizers.

Alternatives Analysis: At the workshop, industry representatives expressed strong concerns with language requiring farmers and other users of fertilizer to submit reports to DTSC that include an alternatives analysis, review of pollution control measures and certification. The requirement for analysis of non-perchlorate-containing alternatives goes well beyond the scope of DTSC's statutory authority. Health and Safety Code section 25210.6 (a)(2) directs DTSC to develop "management practices necessary to prevent releases of perchlorate materials, including, but not limited to, containment standards, usage, processing and transferring practices and spill response procedures." The statute clearly envisions actions that should be taken by the handlers of perchlorate-containing materials to minimize environmental impacts that may result from their manufacture, distribution and use. It does not authorize DTSC to substitute its judgment for that of the manufacturers and users of certain products as to the adequacy of those products relative to non-perchlorate-containing alternatives. Nor does DTSC have the necessary expertise, the resources, or the jurisdiction to regulate the content of fertilizers. That is the purview of CDFA.

Moreover, this provision will stigmatize perchlorate-containing fertilizers and, by virtue of its application to growers, will force product substitution on those unwilling or unable to complete the required analysis. Such a de-facto ban on perchlorate-containing fertilizers is neither contemplated, nor authorized, by the statute.

Finally, the requirement for pollution prevention analysis makes no sense for fertilizers because they are designed for direct application to soil. At a minimum, fertilizers should be exempt from this section.

Best Management Practices: On the subject of best management practices ("BMPs") for dealers, wholesalers and retailers of perchlorate-containing fertilizers, industry representatives testified that: (1) CDFA already has in place effective labeling requirements, fertilizer tonnage logs, and other controls; (2) For 20 years the Central Valley Regional Water Quality Control Board has required fertilizer dealers and wholesalers to employ prescribed BMPs that, over the intervening years, have been adopted voluntarily by the fertilizer industry statewide; and (3) CDFA and the Fertilizer Research and Education Program have implemented an effective fertilizer BMP education and worker training program that includes workshops, videotapes, website information and an annual conference. We feel very strongly that the BMP requirements of the proposed rule should not apply to fertilizers. We request DTSC work with CDFA to determine that

Mr. Eduardo Nieto
November 10, 2005
Page 3

existing requirements are sufficient to satisfy the objectives of California Health and Safety Code section 25210.6.

Labeling: The proposed BMP labeling requirements should not apply to fertilizers accompanied by an appropriately worded MSDS, shipping document or package insert. In addition, an "Environmental Hazard" warning label for perchlorate-containing fertilizers is unwarranted for the following reasons: (1) The US EPA has stated in several published documents that fertilizers are not an environmental hazard, regardless of perchlorate content, for either agriculture or home use; (2) The trace quantities of perchlorate in some commercially-available fertilizer blends are typically mitigated through weather, irrigation and microbial breakdown resulting in levels far below California's Public Health Goal of 6 ppb; and (3) Requiring an "Environmental Hazard" label would stigmatize agriculture, adversely affecting the organic farming industry which has few alternatives available.

Again, we appreciate the opportunity to provide these comments. Attached is a mock-up with alternative language and our justification for the changes. Please do not hesitate to contact any of the undersigned organizations if you have questions or comments.

Sincerely,

Agricultural Council of California
California Agricultural Pest Control Advisors
California Association of Nurseries and Garden Centers
California Association of Winegrape Growers
California Cattlemen Association
California Cut Flower Commission
California Farm Bureau Federation
California Grain and Feed Association
California Grape and Tree Fruit League
California Seed Association
Nisei Farmers League
The Fertilizer Institute
Western Growers
Western Plant Health Association

Cc: Secretary A.G. Kawamura, California Department of Food and Agriculture
Secretary Alan Lloyd, California Environmental Protection Agency
Mr. Dennis Albiani, Office of Governor Schwarzenegger
Mr. Dan Skopec, Office of Governor Schwarzenegger

Rationale for Proposed Changes to DTSC BMP Regulations Regarding Fertilizers

§ 67384.2 Applicability

Add the following:

(c) Effective July 1, 2006, the BMP requirements of this chapter shall apply to perchlorate-containing fertilizers until the California Department of Food and Agriculture, in consultation with DTSC, adopts new requirements, or determines that existing requirements are sufficient, to satisfy the objectives of California Health and Safety Code section 25210.6.

Rationale:

CDFA is the primary regulatory authority for fertilizers and already has programs in place that are more stringent than some of DTSC's proposed BMP requirements. For example, CDFA's fertilizer reporting program provides quarterly data on volumes of specific fertilizer formulations, distributed by county. Other CDFA programs, such as fertilizer labeling, can be readily adapted to DTSC's BMP requirements. H&SC 25210.6 (b)(2) is clearly intended to avoid potential conflicts between DTSC and agencies that already have jurisdiction over products and materials that would otherwise be subject to the BMPs.

This language preserves DTSC's implementation date for the BMP requirements that would otherwise apply to fertilizers but allows CDFA and DTSC additional time to review existing requirements for fertilizers and agricultural operations to determine if they are adequate as is, or if they need to be supplemented to satisfy the provisions of H&SC 25210.6.

§ 67384.3 Definitions

Add the following:

"Crops" means an agricultural product grown for sale or consumption.

Rationale:

The term "crops" is used in Applicability subsection (b)(5), and should be defined.

Modify definition of “spill” as follows:

“Spill” means unintentional release of perchlorate material. For purposes of this chapter, this term does not include perchlorate-contaminated media excluded under section 67384.2(b)(2) of this chapter or perchlorate material resulting from the intended use of a product.

Rationale:

This amendment clarifies that any release of perchlorate material that may occur as a consequence of the intended use of a product cannot be construed as a spill.

§ 67384.4 Labeling best management practice requirements for perchlorate materials

Add the following:

(8) Fertilizers accompanied by an MSDS, shipping document, or package insert that includes the following language: “Contains perchlorate. Special handling may apply. See www.dtsc.ca.gov/perchlorate for additional information.”

Rationale:

This exemption tracks the general MSDS exemption in (b)(4) but eliminates the “environmental hazard” and “disposal restrictions” language requirements for fertilizers. Such language is not warranted for fertilizers because they are designed for direct application to soil and are used to stimulate the growth of many foods that contribute to a healthy diet.

§ 67384.5 Packaging best management practices requirement for perchlorate materials

Amend as follows:

(a) Each package or shipping container used for the containment of perchlorate materials under this section, unless contained as specified in section 67384.6, shall:

(b) Perchlorate-containing products that are constructed and maintained such that they meet the packaging requirement of subsection (a) need not also comply

with the containment requirements specified in section 67384.6. ~~These products may include, but are not limited to the following: batteries, air bag initiators, air bag inflators, bullets, missiles, rockets and primers.~~

Rationale:

Sodium nitrate fertilizers are identified by the Department of Transportation as hazardous materials and are subject to bulk packaging requirements for shipping containers at 49 CFR 173.240 and non-bulk packaging requirements at 49 CFR 173.213. These requirements include both general durability and water resistance standards.

The examples provided in subdivision (b) are unnecessary and may cause confusion for businesses whose products satisfy the requirements of this section, but are not specifically identified in subdivision (b). We recommend that DTSC strike this sentence.

§ 67384.6 Containment best management practice requirements for the storage, processing and manufacturing of perchlorate materials

(b)(3) Fertilizers stored for less than thirty (30) days on the site of intended application.

Note:

30 days appears sufficient for bulk storage of fertilizers prior to application.

§ 67384.7 Notification best management practice requirements for perchlorate materials

Amend as follows:

(c) The requirements of this section do not apply to military munitions managed in accordance with Department of Defense regulations, or to distributors and retailers of fertilizers reporting to the California Department of Food and Agriculture pursuant to sections 14621-14623 of the Food and Agriculture Code, and end users of fertilizers.

Rationale:

Food and Agriculture Code sections 14621 – 14623 require the last licensee selling or distributing fertilizer material to submit a tonnage report to CDFA (see attached code sections). CDFA has developed a form for this purpose (see attached CDFA form) which includes all of the relevant information required by DTSC and which must be submitted every six months. Consistent with Health and Safety Code section 25210.6 (b)(2), DTSC should not impose duplicative notification requirements on these entities.

§ 67384.10 Discharge/Disposal restrictions for perchlorate materials

Amend as follows:

(b) When non-hazardous liquid perchlorate containing wastewater is discharged in California, it shall only be discharged as follows:

(1) If the facility owner or operator discharges to a publicly owned treatment works (POTW), the owner or operator shall, upon renewal of the existing permit, apply for a change to the permit conditions which specifies the effluent limitations for perchlorate, if deemed necessary by the POTW agency.

~~(A) Shall notify the POTW and/or the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and~~

~~(B) Shall apply for a permit or a change to the existing permit conditions which specify the effluent limitations for perchlorate, if deemed necessary by the POTW agency.~~

(2) If the facility owner or operator discharges to surface waters, the owner or operator shall, upon renewal of the existing permit or waiver, apply for a change to the permit or waiver conditions which specifies perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

~~(A) Shall notify the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and~~

~~(B) Shall apply for a permit or a change to the existing permit conditions which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.~~

(3) If the facility owner or operator discharges to land, the owner or operator shall, upon renewal of the existing permit or waiver, apply for a change to the permit or waiver conditions which specifies perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

~~(A) Shall file a Report of Discharge form to notify the appropriate Regional Water Quality Control Board, and~~

~~(B) Shall apply for a permit or a change to the existing permit conditions, or waiver which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.~~

Rationale:

Waste discharge permits and waivers are issued for fixed periods of time to ensure that dischargers can adjust their operations to comply with the permit conditions and to provide some certainty that those conditions will not change within the current permit cycle. As currently drafted, this section could require permits or waivers to be reopened before their next scheduled renewal, even in cases where the permit was recently reissued.

The above changes would still satisfy the requirement for considering perchlorate-specific discharge limitations, but would avoid the cost and uncertainty of reopening a permit before its next scheduled renewal.

§ 67384.11 Perchlorate restrictions

Amend as follows:

(a) On or before January 1, 2008 and every 5 years thereafter, a business that uses perchlorate-containing fertilizers, road safety flares, commercial explosives, or commercial blasting agents, in an amount greater than 500 pounds in any month, shall:

Rationale:

The requirement for analysis of non-perchlorate-containing alternatives goes well beyond the scope of DTSC's statutory authority. Health and Safety Code section 25210.6 (a)(2) directs DTSC to develop "management practices necessary to prevent releases of perchlorate materials, including, but not limited to, containment standards, usage, processing and transferring practices and spill response procedures." The statute clearly envisions actions that should be taken by the handlers of perchlorate-containing materials to minimize environmental

impacts that may result from their manufacture, distribution and use. It does not authorize DTSC to substitute its judgment for that of the manufacturers and users of certain products as to the adequacy of those products relative to non-perchlorate-containing alternatives. Nor does DTSC have the necessary expertise, the resources, or the jurisdiction to regulate the content of fertilizers. That is the purview of CDFA.

Moreover, this provision will stigmatize perchlorate-containing fertilizers and, by virtue of its application to growers, will force product substitution on those unwilling or unable to complete the required analysis. Such a de-facto ban on perchlorate-containing fertilizers is neither contemplated, nor authorized, by the statute.

Finally, the requirement for pollution prevention analysis makes no sense for fertilizers because they are designed for direct application to soil. At a minimum, fertilizers should be exempt from this section.

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Perchlorate BMP Draft Language
October 25, 2005

Chapter 33. Best Management Practices for Perchlorate Materials

Article 1. General

§ 67384.1 Scope

(a) This chapter establishes the best management practices for perchlorate materials as described in section 67384.2.

§ 67384.2 Applicability

(a) Effective July 1, 2006, the best management practice requirements of this chapter shall apply to all persons managing perchlorate materials as described in section 67384.3, except those listed in subsection (b) of this section.

(b) The best management practice requirements of this chapter do not apply to the following perchlorate materials:

- (1) Perchlorate materials managed as a hazardous waste in compliance with all applicable requirements of California hazardous waste law;
- (2) Onsite perchlorate-contaminated media under the oversight of a regulatory agency with jurisdiction pursuant to applicable environmental statute that addresses response, removal or remedial action of the perchlorate contamination;
- (3) Perchlorate materials containing less than six (6) parts per billion (ppb) of perchlorate;
- (4) Consumer goods manufactured in California prior to, but no later than December 31, 2006, and consumer goods transported into California prior to, but no later than December 31, 2006;
- (5) Food, crops, and pharmaceuticals; and
- (6) Combustion residuals of perchlorate materials.

(c) Effective July 1, 2006, the BMP requirements of this chapter shall apply to perchlorate-containing fertilizers until the California Department of Food and Agriculture, in consultation with DTSC, adopts new requirements, or determines that existing requirements are sufficient, to satisfy the objectives of California Health and Safety Code section 25210.6.

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§ 67384.3 Definitions

The following definitions shall apply to the terms used in this chapter:

"Business" means an employer, self-employed individual, trust, firm, joint stock company, corporation, partnership, or association. For purposes of this chapter, "business" includes a business organized for profit, a nonprofit business and all of the following:

- (a) The federal government, to the extent authorized by federal law.
- (b) Any agency, department, office, board, commission, or bureau of state government, including, but not limited to, the campuses of the California Community Colleges, the California State University, and the University of California.
- (c) Any agency, department, office, board, commission, or bureau of a city, county or district.

"Commercial" means used by a business to generate revenue or promote the sale of goods or services.

For purposes of this chapter, the term "commercial" does not include material or products used under federal, military, or space launch contract requirements.

"Combustion residual" means any paper, ash, wire, or other physical material that remains after the perchlorate-containing material has been substantially consumed.

For purposes of this chapter, this term does not include the treatment residuals of perchlorate-containing waste or explosive residuals.

"Consumer commodity" means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use.

"Consumer good" means a product or commodity used by a business that is packaged in a form similar to a consumer commodity.

"Contaminated media" means soil, sediment, surface water, groundwater contaminated with perchlorate.

["Crops" means an agricultural product grown for sale or consumption.](#)

"Dangerous fireworks", as defined in Health and Safety Code, section 12505, means all of the following:

- (a) Any fireworks which contain any of the following:
 - (1) Arsenic sulfide, arsenates, or arsenites.
 - (2) Boron.
 - (3) Chlorates, except:

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(A) In colored smoke mixture in which an equal or greater amount of sodium bicarbonate is included.

(B) In caps and party poppers.

(C) In those small items (such as ground spinners) wherein the total powder content does not exceed 4 grams of which not greater than 15 percent (or 600 milligrams) is potassium, sodium, or barium chlorate.

(4) Gallates or Gallic acid.

(5) Magnesium (magnesium-aluminum alloys, called magnalium, are permitted).

(6) Mercury salts.

(7) Phosphorous (red or white except that red phosphorus is permissible in caps and party poppers).

(8) Picrates or picric acid.

(9) Thiocyanates.

(10) Titanium, except in particle size greater than 100-mesh.

(11) Zirconium.

(b) Firecrackers.

(c) Skyrockets and rockets, including all devices which employ any combustible or explosive material and which rise in the air during discharge.

(d) Roman candles, including all devices which discharge balls of fire into the air.

(e) Chasers, including all devices which dart or travel about the surface of the ground during discharge.

(f) Sparklers more than 10 inches in length or one-fourth of one inch in diameter.

(g) All fireworks designed and intended by the manufacturer to create the element of surprise upon the user. These items include, but are not limited to, auto-foolers, cigarette loads, exploding golf balls, and trick matches.

(h) Fireworks known as devil-on-the-walk, or any other firework which explodes through means of friction, unless otherwise classified by the State Fire Marshal pursuant to this part.

(i) Torpedoes of all kinds which explode on impact.

(j) Fireworks kits.

(k) Such other fireworks examined and tested by the State Fire Marshal and determined by him, with the advice of the State Board of Fire Services, to possess characteristics of design or construction which make such fireworks unsafe for use by any person not specially qualified or trained in the use of fireworks.

“Department” means the Department of Toxic Substances Control.

“Explosive residuals” means perchlorate-containing material after the use of high explosives, pyrotechnics, fireworks, or propellants.

For purposes of this chapter, this term does not include combustion residuals.

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"Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.

The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks.

"Food" means any raw or processed substance, beverage, including water, or ingredient intended to be used as food, drink, confection, or condiment for human or other animal consumption.

"Household" means a private residence. For the purpose of this section, household does not mean a hotel, motel, bunkhouse, ranger station, crew quarters, campground, picnic ground, or day-use recreation facility.

"Household waste" means any materials, including garbage or trash that is generated by residents through the use of a consumer commodity in a household.

"Highway", as defined in California Vehicle Code section 360, means a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes streets.

"Managing perchlorate materials" means generation, storage, transportation, manufacture, processing, fabrication, packaging, use, reuse, treatment, transfer, pumping, recovery, recycling, spill response, disposal, and discharge.

"Material Safety Data Sheet" means written or printed material concerning a hazardous chemical which is prepared in accordance with title 29 of the Code of Federal Regulations, section 1910.1200(g)

"Military munitions", as defined in the Code of Federal Regulations, section 260.10, means all ammunition products and components produced or used by or for the U.S. Department of Defense (DOD) or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear

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components of nuclear devices, managed under DOE's nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

“Non-hazardous waste” means a waste that does not meet the definition of hazardous waste as defined in title 22 of the California Code of Regulations, section 66260.10.

“Packaging” means a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements of this chapter.

“Perchlorate material” as defined in Health and Safety Code 25210.5 means all perchlorate-containing materials including perchloric acid and perchlorate compounds. “Perchlorate material” includes all forms of matter, goods, and products and shall not be limited by other statutory or regulatory definitions of “material”.

"Pyrotechnic operator", as defined in Health and Safety Code, section 12527, means any licensed pyrotechnic operator, who by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted.

"Pharmaceutical", as defined in title 21 of the United States Code, section 321(g)(1), means a prescription or over-the-counter human or veterinary drug, including, but not limited to, a drug as defined in Section 109925 or the Federal Food, Drug, and Cosmetic Act, as amended.

"Public display of fireworks" means, as defined in Health and Safety Code, section 12524, an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of fireworks.

“Public safety activity” means any activity intended to protect people or property, including, but not limited to, law enforcement services, fire protection and suppression, emergency medical care, tow operations, emergency services, public utility service and repair, homeland security, and highway maintenance and repair.

“RWQCB” means the California Regional Water Quality Control Board.

“Spill” means unintentional release of perchlorate material.

For purposes of this chapter, this term does not include [perchlorate-contaminated media excluded under section 67384.2\(b\)\(2\) of this chapter](#) [or perchlorate material resulting from the intended use of a product](#).

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“Water-resistant package” means a package that when closed, under conditions incidental to handling, is substantially impervious to rain, spray, and run on.

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§ 67384.4 Labeling best management practice requirements for perchlorate materials

(a) Persons who manufacture perchlorate materials, repackage perchlorate materials, distribute perchlorate materials for sale, receive perchlorate materials for resale or use in California, or generate a perchlorate containing waste shall ensure that the perchlorate materials are properly labeled. Labels shall be applied conspicuously on the exterior of all outer shipping packages and on consumer packages. All perchlorate material, except those materials listed in subsection (b) of this section, shall be labeled or marked clearly with the following, "Perchlorate Material – Environmental Hazard – special handling and disposal restrictions may apply, See www.dtsc.ca.gov/perchlorate".

(b) The best management practice requirements of this section do not apply to the following perchlorate materials:

- (1) Household waste;
- (2) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;
- (3) Perchlorate materials used or maintained at a site where all personnel handling the perchlorate material have received instruction on, have access to information in the workplace, and comply with the perchlorate Best Management Practice requirements of this chapter;
- (4) Perchlorate materials which are accompanied with a Material Safety Data Sheet ([MSDS](#)), shipping document, or package insert that includes all the information required in the label pursuant to subsection (a);
- (5) Finished products produced pursuant to federal, military or space launch contract requirements;
- (6) Wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges; and
- (7) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity.
- (8) [Fertilizers accompanied by an MSDS, shipping document, or package insert that includes the following language: "Contains perchlorate. Special handling may apply. See \[www.dtsc.ca.gov/perchlorate\]\(http://www.dtsc.ca.gov/perchlorate\) for additional information."](#)

(c) The best management practice requirements of this section do not apply to [any](#) end user of consumer goods [or fertilizers](#).

§ 67384.5 Packaging best management practices requirement for perchlorate materials

(a) Each package [or shipping container](#) used for the containment of perchlorate materials under this section, unless contained as specified in section 67384.6, shall:

- (1) be designed, constructed, maintained, filled, its contents so limited, and closed, so that under conditions normally incident to handling, there will be no identifiable release of perchlorate materials to the environment; and
- (2) be contained in a water-resistant package.

(b) Perchlorate-containing products that are constructed and maintained such that they meet the packaging requirement of subsection (a) need not also comply with the containment requirements specified in section 67384.6. ~~These products may include, but are not limited to the following: batteries, air bag initiators, air bag inflators, bullets, missiles, rockets, and primers.~~

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§ 67384.6 Containment best management practice requirements for the storage, processing and manufacturing of perchlorate materials

(a) Unless listed in subsection (b) of this section, perchlorate materials not packaged or produced as specified in section 67384.5 during storage, processing and manufacturing, shall be contained in weather resistant structures with floors that:

- (1) are adequately water-resistant to prevent seepage into or out of the containment structure;
- (2) do not have drains that release to the environment; and
- (3) are of adequate strength to support the loads.

(b) Containment requirements specified in this section shall not apply to the following:

- (1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;
- (2) Manufacturing processes, which because of explosion or fire risk, are not conducted within a confined structure, but meet all other requirements of subsection (a) above, and
- (3) Fertilizers stored for less than thirty (30) days on the site of intended application.

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- (b) The weight or volume of the following products or materials shall not be considered when calculating the 500 pound or 55 gallon notification threshold of subsection (a);
- (1) Automobiles;
 - (2) Appliances; and
 - (3) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach.
- (c) The requirements of this section do not apply to military munitions managed in accordance with Department of Defense regulations, [or to distributors and retailers of fertilizers reporting to the California Department of Food and Agriculture pursuant to sections 14621-14623 of the Food and Agriculture Code, and end users of fertilizers.](#)
- (d) Electronic notifications submitted under subsection (a) shall be submitted to www.dtsc.ca.gov.
- (e) Written notifications submitted under subsection (a) shall be submitted to the Department by certified mail, return receipt requested to: Department of Toxic Substances Control, Hazardous Waste Management Program, Regulatory and Program Development Division, P.O. Box 806, Sacramento, CA 95812-0806, with "Attention: Perchlorate Materials BMPs" prominently displayed on the front of the envelope.
- (f) A business submitting written notification under section (a) may request that confidential business information in the notification and any information that would have site security implications be withheld from public disclosure by the Department.

§ 67384.8 Special best management practices for flares and pyrotechnic perchlorate materials

(a) Road safety flares should be used in a manner that minimizes releases of perchlorate to the environment. As many of the following practices should be implemented to the extent practical without impeding immediate safety considerations:

- (1) Flares should be allowed to burn completely;
- (2) Flares used in an emergency incident should be limited in number and duration necessary to ensure safety; and
- (3) All personnel who routinely use flares in the normal course of employment should receive instruction on the potential environmental hazards associated with the use of perchlorate materials and on the perchlorate Best Management Practice requirements of this chapter.

(b) Marine safety flares shall be used in a manner that minimizes releases of perchlorate to the environment.

(c) Within twenty-four (24) hours of a public display of fireworks, the pyrotechnics operator, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect any explosive residuals found during the inspection of the entire firing range.

§ 67384.9 Spill response best management practices for non-hazardous perchlorate materials

- (a) For spills of non-hazardous perchlorate materials to the environment, a handler of perchlorate materials:
- (a) Shall immediately take action to stop and contain all spills of perchlorate material;
 - (b) Shall determine whether any material resulting from the spill is hazardous waste, and if so, shall manage the hazardous waste in compliance with all applicable requirements of this division. The handler is considered the generator of the material resulting from the release, and shall manage it in compliance with chapter 12 of this division;
 - (c) Should collect to the extent practical any material resulting from the spill;
 - (d) Should decontaminate the spill area; and
 - (e) Should prevent or minimize releases to storm sewers.

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§ 67384.10 Discharge/Disposal restrictions for perchlorate materials

(a) When solid non-hazardous perchlorate containing waste is land disposed in California, it shall be disposed of in either:

- (1) a hazardous waste landfill, or
- (2) a composite-lined portion of a non-hazardous waste landfill that meets all requirements applicable to disposal of municipal solid waste in California after October 9, 1993; if:
 - (A) The leachate from the landfill units receiving the perchlorate material is monitored for perchlorate; and
 - (B) The results of the monitoring are submitted to the Regional Water Quality Control Board.

(b) When non-hazardous liquid perchlorate containing wastewater is discharged in California, it shall only be discharge as follows:

(1) If the facility owner or operator discharges to a publicly owned treatment works (POTW), the owner or operator shall, upon renewal of the existing permit, apply for a change to the permit conditions which specifies the effluent limitations for perchlorate, if deemed necessary by the POTW agency.

- ~~(A) Shall notify the POTW and/or the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and~~
- ~~(B) Shall apply for a permit or a change to the existing permit conditions which specify the effluent limitations for perchlorate, if deemed necessary by the POTW agency.~~

(2) If the facility owner or operator discharges to surface waters, the owner or operator shall, upon renewal of the existing permit or waiver, apply for a change to the permit or waiver conditions which specifies perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

- ~~(A) Shall notify the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and~~
- ~~(B) Shall apply for a permit or a change to the existing permit conditions which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.~~

(3) If the facility owner or operator discharges to land, the owner or operator shall, upon renewal of the existing permit or waiver, apply for a change to the permit or waiver conditions which specifies perchlorate

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discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

- ~~(A) Shall file a Report of Discharge form to notify the appropriate Regional Water Quality Control Board, and~~
- ~~(B) Shall apply for a permit or a change to the existing permit conditions, or waiver which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.~~

(c) The POTWs receiving wastewater from business that have identified perchlorate-containing discharges, shall monitor the POTW's effluent for perchlorate and shall include the perchlorate as a constituent on their National Pollutant Discharge Elimination System (NPDES) permit.

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- (d) The requirements of this section do not apply to:
 - (1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach; and
 - (2) Household non-hazardous perchlorate-containing waste
- (e) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity are exempt from this subsection.

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§ 67384.11 Perchlorate restrictions

(a) On or before January 1, 2008 and every 5 years thereafter, a business that uses perchlorate-containing ~~fertilizers~~, road safety flares, commercial explosives, or commercial blasting agents, in an amount greater than 500 pounds in any month, shall:

- (1) review their use of these perchlorate-containing products in order to determine if non-perchlorate-containing alternatives are available and adequate for substitution; and
- (2) review and update pollution prevention measures taken to prevent releases of perchlorate; and
- (3) submit to the Department a certification documenting the completion of both reviews and identifying the product substitution analysis relied upon in determining that a non-perchlorate-containing alternative is unavailable or inadequate; or
- (4) submit to the Department a certification stating the specific reason that product substitution and pollution prevention was not possible or was unnecessary.

(b) On or before January 1, 2008 and every 5 years thereafter, a business that uses dangerous fireworks, or solid rocket motors, in amounts greater than 500 pounds in any one month, shall submit to the Department:

- (1) analytical results of existing stormwater monitoring mandated by a stormwater permit authorized by the State Water Resource Control Board or an applicable Regional Water Quality Control Board that requires monitoring for perchlorate. If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the resulting analytical results; or
- (2) any environmental monitoring results of soil and/or water within the facility or site that includes perchlorate. If the business conducts environmental monitoring that does not include perchlorate, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the resulting analytical results.

(c) Pursuant to HSC section 25210.7, a business may not manage perchlorate materials unless the management complies with the best management practices specified in the subsections (a) and (b) above.

CALIFORNIA

ASSOCIATION, inc.

ATTRACTIONS AND PARKS

November 10, 2005

Bonfonte Gardens

Children's Fairyland

Disneyland Parks
and Resorts

Golfland Entertainment
Centers

Knott's Berry Farm

LEGOLAND California

Pacific Park

Palace Entertainment

Paramount's Great
America

Pixieland Amusement
Park

Santa Cruz Beach
Boardwalk

SeaWorld

Six Flags

The Wave Water Park

Universal Theme Parks

Wild Rivers Water Park

*Partial list

VIA ELECTONIC TRANSMISSION AND US MAIL

Department of Toxics Substances Control
Attn. Ed Nieto – Perchlorate Workshop Comments
P.O. Box 806
Sacramento, California 95812-0806

Re: Perchlorate Best Management Practices

Dear Mr. Nieto:

Thank you for affording the California Attractions and Parks Association (CAPA) an opportunity to comment once again on the Department's draft regulations relating to best management practices for perchlorate. CAPA, as you know, is a trade association that represents the amusement and water park industry of California.

In our initial comments, we pointed out that member parks use fireworks in regular displays and attractions to provide unforgettable experiences to their visitors. Perchlorate remains an essential element to produce color in fireworks. Accordingly, our goal in these comments is to address the concerns expressed by the Legislature in AB 826 and to do it in a way that permits the parks to continue to thrill visitors and forge wonderful memories.

At the outset, the parks appreciate several of the changes that were made in the October 25, 2005 version of the draft regulations. These comments note some of those changes and urge the Department to make other changes to provide greater clarity and feasibility to the regulations that are ultimately adopted. Our comments are set out in the order of the draft regulations.

Section 67384.2 Applicability

We support the decision to exempt combustion residuals of perchlorate materials from the best management practice regulations. This is because such combustion residuals contain essentially no perchlorates since they are consumed in the fireworks detonation.

However, it is not clear whether the six materials exempted in Section 67384.2(b) from the “best management practice” requirements of this chapter are exempted from all of the regulations contained in Chapter 33 or just those regulations containing the phrase “best management practice” in the section title. This issue becomes especially important with respect to the discharge/disposal restrictions contained in Section 67384.10, a section which does not contain the phrase “best management practice” in its title.

The September 16, 2005 draft regulations exempted the materials listed in Section 67384.2(b) from the “requirements of this chapter” (Chapter 33: Management of Perchlorate Materials). However, the October 25, 2005 draft regulations exempted the materials in Section 67384.2(b) from the “best management practice requirements” of Chapter 33. Concurrent with this change, the Department added the phrase “best management practice” to the titles of Sections 67384.4 through 67384.9, but not to Sections 67384.10 and 67384.11). Read together, these changes can fairly be interpreted as limiting the applicability of the exemption only to those regulations with the phrase “best management practice” in their title. This interpretation would be problematic since perchlorate materials containing less than 6 ppb perchlorates would be subject to Section 67384.10 discharge and disposal restrictions even though these materials would be exempt from all of the best management practice requirements.

It is our understanding that the Department did not intend the October 25 amendments to limit the scope of the Section 67384.2 exemption in this manner. Therefore, to eliminate any ambiguity on this issue, we recommend that the Department revert to the Section 67384.2(b) language contained in the September 16, 2005 draft regulations:

(b) The requirements of this chapter do not apply to the following perchlorate materials:

Section 67384.7 Notification best management practice requirements for perchlorate materials

As we stated in our previous comments, we believe the notification requirement is unnecessary and duplicative of existing California requirements such as the California business plan hazardous materials inventory reporting requirements. Nevertheless we’re suggesting further modifications to the revised notification requirements contained in the October 25, 2005 draft regulations.

Section 67384.7(a) states that the notification requirement applies if a business manages perchlorate materials “in an amount greater than 500 pounds of solids or 55 gallons of liquids.” This is analogous to the California business plan for emergency response requirements (Health & Safety Code Section 25503.5), which apply if a business at any one time handles more than 500 pounds or 55 gallons of a hazardous. For business plan purposes, a facility essentially takes a snapshot of its operations to determine whether the business plan thresholds are exceeded.

With respect to fireworks, the 500 pounds of solids notification threshold is far too low. In Section 67384.7(b), the inert weight of automobiles and appliances are exempted from the threshold evaluation since these items presumably contain a small weight fraction of perchlorates. This logic applies equally to fireworks. The vast percentage of the weight of a firework or pyrotechnic consists of non-perchlorate containing materials such as casings, inert fillers such as sawdust or rice hulls, black powder charges, wires, fuses and igniters. In fact, the Department has conservatively estimated that perchlorate constitutes no more than 10% of the weight of fireworks. The basis for adopting 500 pounds is a standard relating to 500 pounds of hazardous materials. Hence, to equal 500 pounds of perchlorate, the standard should be no less than 5000 pounds of fireworks.

Moreover, a typical 20-30 minute Fourth of July fireworks show will use about 2,000 pounds of pyrotechnics. It is our understanding that the Department is considering exempting one or two fireworks shows from the notification requirement. That could easily equal 4,000 pounds or more of fireworks. Accordingly, CAPA urges the Department to exempt 5,000 pounds of fireworks.

Section 67384.8 Special best management practices for flares and pyrotechnic perchlorate materials

We believe the requirement to collect any “explosive residuals” of fireworks to the extent practical in the firing range within 24 hours of a public display of fireworks is reasonable as the best management practice for fireworks displays.

Section 67384.9 Spill response best management practices for non-hazardous perchlorate materials

In the October 25, 2005 draft regulations, the Department added the definition of “spill” to address concerns that the falling of an unburned star or dud firework could be deemed a “release” of perchlorate material that triggers Section 67384.9 release response obligations. “Spill” was defined as the “unintentional release of perchlorate material.” However, an unburned star or dud firework results from an unintentional-fireworks malfunction. The discharge of an explosive residual could, therefore, be construed as a “spill” for Section 67384.9 purposes since the release is unintentional, which we understand is not the Department’s intent. Therefore, we recommend adding the following language to the definition of “spill”:

“Spill” shall not include the discharge of explosive residuals from fireworks displays.

Section 67384.10 Discharge/Disposal restrictions for perchlorate materials

We believe this section should be stricken in its entirety since it imposes significantly new regulatory burdens on California business while standards for perchlorates are still under development. Moreover, the regulation of perchlorate discharges sought under Section 67384.10(b) can already be achieved under California’s existing program for regulating wastewater discharge and disposal of hazardous substances.

At this time California is in the process of developing wastewater discharge and drinking water standards for perchlorates. It is our understanding that they have not yet been promulgated. Finalizing these standards will set in motion a number of regulatory obligations on agencies and facilities that will result in new requirements for certain dischargers such as monitoring requirements and/or discharge limitations on permits.

Section 67384.10(b) imposes significant and costly new burdens on amusement parks that put on fireworks displays. For example, Section 67384.10(b)(2) states that if a facility discharges non-hazardous liquid perchlorate containing wastewater to surface waters, that facility must (1) notify the appropriate Regional Water Quality Control Board (RWQCB) of the time, volume, content, characteristics and point of the discharge, and (2) apply to the RWQCB for a new permit with contains perchlorate discharge limitations, or file for an amendment to an existing permit to add such discharge limitations, if deemed necessary by the RWQCB.

This section puts the burden on dischargers to fully characterize their surface water discharges—regardless of whether those discharges currently have permits—to determine whether the discharge exceeds the 6 ppb perchlorate threshold before they notify the RWQCB. This means that the facility must develop and implement the sampling protocols, test methodologies and a sampling workplan without prior input or guidance from the agencies that regulate such wastewater discharges. This is a particularly daunting task, particularly for a facility which does not have a permit for surface water discharge and would thus be applying for a new permit from the RWQCB for the first time. The same analysis applies to any surface water that is discharged to a publicly owned treatment works (POTW) under Section 67384.10(b)(1).

Moreover, this requirement hits amusement parks with fireworks displays particularly hard. By their very design amusement parks have large surface areas of several hundred acres or more that drain to stormwater. Many parks may also have integrated waterways that are part of the park landscape design that also drain to stormwater. Much of the amusement park surface area, which includes parking lots, back-of-house areas, roofs of buildings and the publicly-accessible areas, may be within the fireworks fallout area. As a result, Section 67384.10(b)(2) imposes an affirmative duty on amusement parks to characterize all surface water discharges that may contain perchlorates. This is a huge project that would be done at great time and expense, and must be done before notifying

the RWQCB or POTW of the nature of the discharge to determine whether new permits or permit amendments are warranted.

Requiring facilities to fully characterize their perchlorate-containing discharges before approaching the water quality agencies—and before state water quality standards for perchlorates are finalized—is onerous and wasteful, particularly if the agencies disagree with the methodologies used to collect the sampling data or the discharges sampled, and reject the data as unrepresentative. There is a more prudent and cost effective way to handle this issue.

A number of regulatory requirements will be triggered once the state finalizes its water quality standards for perchlorates. These requirements would be triggered regardless of any requirements in Section 67384.10. These would include a review of discharger operations and an assessment of whether permit modifications for monitoring requirements and/or discharge limitations are warranted.

With respect to amusement parks, it should be a straightforward exercise for the RWQCBs and POTWs to identify those parks which have fireworks displays, and any notifications provided under Section 67384.7 can facilitate identification of other facilities. The water quality agencies, in consultation with the facilities, can assess whether discharge regulation is warranted, and if necessary develop the appropriate regulatory program for the facility, which may include wastewater discharge characterization, ongoing monitoring requirements, and discharge limitations.

We believe this is a far more feasible approach than the one proposed by the Department in Section 67384.10(b). We therefore recommend that Section 67384.10(b) be stricken in its entirety, and replaced with the following language:

(b) The publicly owned treatment works (POTW) and the Regional Water Quality Control Boards shall identify those facilities which may discharge non-hazardous liquid perchlorate containing wastewater. In consultation with those facilities, the appropriate POTW and/or the Regional Water Quality Control Board if deemed necessary may require sampling to characterize wastewater discharge or new or modified permits to impose monitoring requirements and/or discharge limitations.

Section 67384.11 Perchlorate Restrictions

Section 67384.11(a) requires businesses that use perchlorate containing fertilizers, road safety flares, commercial explosives or commercial blasting agents to conduct perchlorate substitution analysis every five years and file the results of such analysis to the Department. It is unclear whether this requirement also applies to businesses that have fireworks displays.

The regulations, while specifically defining “fireworks” and “dangerous fireworks”, do not define “commercial explosives.” The fact that the terms “fireworks” or “dangerous fireworks” were not expressly included in the list of materials that trigger the substitution

analysis suggests that the Department intended to exclude businesses that have fireworks displays from this requirement. Moreover, end users of fireworks such as amusement parks are in no position to conduct a meaningful analysis of whether there are viable chemical substitutes for perchlorates that may be used in fireworks formulations. Therefore, we recommend that the Department specifically exclude businesses that have fireworks displays from the requirements of Section 67384.11(a).

Section 67384.11(b) requires businesses that use more than 500 pounds of “dangerous fireworks” in any one month to conduct soil and groundwater analysis every five years and submit those results to the Department. This section should be stricken in its entirety since this regulation goes beyond the scope of the enabling legislation in violation of state administrative law.

In fact Section 67384.10(b) and 67384.11 both exceed the authority conferred on the Department by AB 826. The relevant part of that bill, Health & Safety Code Section 25210.6(a), authorizes the Department to “adopt regulations specifying the best management practices for a person managing perchlorate materials. These practices may include, but are not limited to, all of the following:

- (1) Procedures for documenting the amount of perchlorate materials managed by the facility
- (2) Management practices necessary to prevent releases of perchlorate materials, including, but not limited to, containment standards, usage, processing and transferring practices, and spill response procedures.”

In essence, the statute authorized the Department to specify and adopt practices to prevent future releases of perchlorates into the environment. However, nowhere in this language did the statute grant the Department the authority to regulate water discharges, to require reports on the state of pyrotechnic technology, or to monitor soils and waters for the presence of perchlorate.

Under California law, “administrative regulations that alter or amend the statute or enlarge or impair its scope are void and courts not only may, but it is their obligation to strike down such regulations.” While the phrase “including but not limited to” is an expansive grant of authority, courts limit the expansion to factors that are of the same kind that are in the list of included factors. In other words, the Department’s authority is to prescribe “management” practices “to prevent releases” and that are categorical the same as “containment standards, usage, processing and transferring practices, and spill responses.”

The requirements contained in Sections 67384.10 and 67384.11 are unrelated to preventing releases, and they involve significantly different factors than those listed in the statute. Accordingly, they enlarge the scope of the statute and are invalid.

Conclusion

CAPA appreciates this opportunity to help the Department to fashion a workable regulation. Accordingly, if you have any questions about these comments or the effect of future amendments, we would be pleased to work further with the Department.

Sincerely,

ORIGINAL SIGNED

**John Robinson
CEO CAPA**

**RECEIVED BY:
Hazardous Waste Management**

NOV 10 2005

**DEPARTMENT OF TOXIC
SUBSTANCES CONTROL**

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

P. O. Box 942898
Sacramento, California 94298-0001
(916) 657-7152
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)



November 10, 2005

File No.: 1.A9293.051.05-1227

Department of Toxic Substances Control
Attention: Mr. Ed Nieto – Perchlorate Workshop Comments
P.O. Box 806
Sacramento, CA 95812-0806

Dear Mr. Nieto:

The California Highway Patrol (CHP) thanks you for your cooperation and willingness to address public safety concerns in drafting the perchlorate Best Management Practices. The Perchlorate Best Management Practices workshop on November 1, 2005, allowed our Department to voice concerns regarding the regulations.

As currently drafted, the proposed regulations restricting road flares substantially address our concerns regarding potential threats to officer and public safety; however, the CHP requests your consideration of the following amendments to the regulations:

- At the November 1, 2005, workshop, a recommendation was voiced to revise Section 67384.8(a) of the regulations. The CHP strongly believes that for the safety of the people of California, and the public safety agencies that serve them, this section should not be amended.
- The CHP does not oppose providing information gathered as a result of an evaluation of alternative products to flares as outlined in Section 67384.11(a); however, for clarification, the CHP proposes the following verbiage to the requirements of Section 67384.11(a):

§ 67384.11 Perchlorate Restrictions

(a) On or before January 1, 2008, and every five years thereafter, a business that uses perchlorate-containing fertilizers, road safety flares, commercial explosives, or commercial blasting agents, in an amount greater than 500 pounds in any month, shall:

- (1) review ~~their use of these perchlorate-containing products in order to determine if~~ non-perchlorate-containing alternatives ~~are available~~ and ~~for substitution~~ ~~determine if they are proper substitutes for perchlorate containing products~~; and
- (2) review and update pollution prevention measures taken to prevent releases of perchlorate; and

Mr. Ed Nieto
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November 10, 2005

(3) submit to the Department a certification documenting the completion of both reviews and identifying ~~the any~~ product substitution analysis relied upon in determining that a non-perchlorate-containing alternative is unavailable or inadequate; or, submit to the Department a certification stating the specific reason that product substitution and pollution prevention was not possible or was unnecessary.

Thank you for your consideration of these additional recommendations. If you have any questions or need additional information, please contact me or Captain Scott Howland of our Office of Special Representative at (916) 657-7249.

Sincerely,

ORIGINAL SIGNED

M. L. BROWN
Commissioner

November 10, 2005

California Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812-0806
Attention: Ed Nieto – Perchlorate Workshop Comments

Re: Best Management Practices (BMP) for Perchlorate Materials

Dear Mr. Nieto,

The Chemical Industry Council of California (CICC), Chlorine Chemistry Council (CCC), Chlorine Institute (CI), Soap & Detergent Association (SDA), and Consumer Specialty Products Association (CSPA) are requesting that the Department of Toxic Substances Control (DTSC) exempt antimicrobials from the proposed Best Management Practices (BMP) regulations for handling perchlorate materials. The above-named organizations feel this exemption is warranted based on the intent of legislature and that existing regulations reasonably, feasibly, and adequately provide BMP.

As discussed in more detail below, DTSC should exempt antimicrobials from the proposed regulations for the following reasons:

- The original intent of the legislature is to protect drinking water supplies, and not to regulate antimicrobial products.
- The proposed regulation would duplicate existing Federal, State, and local regulations, as well as the Uniform Fire Code requirements, which adequately regulate antimicrobials, and establish BMPs for these products.
- The proposed labeling requirements are unwarranted for antimicrobials because they are already regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In addition, the DTSC's proposed labeling requirements would discourage the safe and proper use of antimicrobials, with potentially serious risks to public health.
- The use of antimicrobials is adequately regulated and should be provided the same exemption status that is proposed for the food, crops, and pharmaceutical industries. DTSC has stated the exemption for these industries is based on the existence of adequate regulations for these industry products. All industry products that are adequately regulated, including antimicrobials, should receive the same BMP exemption status, including an exemption from labeling and notification requirements.
- The proposed notification provisions would unnecessarily require thousands of businesses (grocery stores, gas/food marts, food industries, paint businesses, etc.) that handle antimicrobials to report to DTSC.

A. Intent of Legislature to Protect Drinking Water Supplies

DTSC's authority to promulgate the proposed BMP regulations is based on State Bill AB 826. A thorough reading of AB 826 reveals that the legislature intended to regulate drinking water supplies, not antimicrobial products. Legislative intent for the protection of drinking water supplies is based on the following statements contained in AB 826:

- 1) "SEC. 2. (a) (1) The Legislature finds and declares all of the following: ...reported detections of perchlorate in 44 public drinking water systems..."
- 2) "SEC. 2. (5) Pregnant women and their developing fetuses may suffer the most serious health effects from perchlorate contamination in drinking water,..."
- 3) "SEC. 2. (9) The discharge of perchlorate waste into the environment through air, surface and subsurface soils, surface water and groundwater media is a threat to water supply and to wildlife habitat, such as wetlands."

Based on the above excerpts from AB 826, the intent of the legislature is to protect our drinking water supplies, not to regulate the antimicrobial products that have been a part of our country's public health defenses for over 100 years. Therefore, DTSC should exempt antimicrobials from the proposed regulations.

B. Avoid Duplication of Existing Regulations

According to AB 826, "[t]he department shall also, before adopting regulations pursuant to subdivision (a), review existing federal, state, and local laws governing the management of perchlorate materials to determine the degree to which uniform and adequate requirements already exist, so as to avoid any unnecessary duplication of, or interference with the application of, those requirements."¹

As stated in comments from Hasa Inc., provided to the Department of Toxic Substances Control on October 3, 2005, existing requirements in Federal, State, and local regulations and Uniform Fire Codes, reasonably, feasibly, and adequately regulate and establish BMPs for the handling of antimicrobials for the protection of our environment.

Typically, the State Water Resource Control Board (SWRCB) is the agency responsible for protecting the state's water resources. The SWRCB implements these protections through the National Pollutant Discharge Elimination System (NPDES) permits required by the Federal Clean Water Act and the State's Industrial Activities Storm Water General Permit program. The General Permit requires businesses to develop Storm Water Pollution Prevention Plans (SWPPP), which includes BMP, as well as requirements to conduct monitoring and reporting of storm water test samples. The SWRCB accomplishes the protection of our water resources by utilizing established Maximum Contaminate Limits (MCL)², establishing monitoring and testing programs,

¹ AB 826, Section 3(b)(2).

² It should be noted that the U.S. Environmental Protection Agency (USEPA) is currently working to determine the MCL for perchlorate. Unfortunately, the USEPA does not expect to establish the MCL until

and requiring the use of Best Management Practices to protect and prevent releases into our water resources.

The U.S. Environmental Protection Agency (USEPA) has undertaken the task to determine the Maximum Contaminate Limit (MCL) for perchlorate. The development of an MCL would allow the SWRCB to implement appropriate monitoring, testing, and appropriate BMPs under the NPDES and General permit programs. Thus, regulations under the DTSC would be a duplicative of regulations covered under the normal SWRCB regulatory authority. Furthermore, until that work is finalized it is not prudent to impose regulations that might threaten the use of antimicrobials that have protected our water systems for over 100 years.

C. DTSC Proposed Labeling Requirements

Existing regulations for antimicrobials currently meet all of the BMPs proposed by DTSC, including the new labeling requirement and the one time notification. However, this new labeling requirement and one time notification are both unnecessary for antimicrobial products.

1. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Requirements

Antimicrobials, which are registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), do not need additional labeling concerning the handling and disposal of these products under the FIFRA regulations, the following label instructions are already required:

“Environmental Hazards – This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.”

“Storage and Disposal – ... Do not contaminate food or feed by storage or disposal or cleaning of equipment.”

As a note, the FIFRA regulations also mandate that the following instruction be placed in the Directions for Use of all registered pesticides:

“It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.”

approximately 2010. The development of an MCL would allow the SWRCB to implement appropriate monitoring, testing, and appropriate BMPs under the NPDES and General permit programs.

Therefore, if DTSC recommends a storage, handling, or disposal instruction, which is not consistent with the federally approved EPA registered label, complying with the DTSC requirement could result in a violation of Federal Law.

2. Protection of Public Health

Chlorine-based antimicrobials are vital to protecting drinking water and public health. Chlorine disinfectants have been used to supply safe drinking water for over 100 years. Today, virtually all systems that disinfect drinking water use chlorine-based products to kill bacteria and viruses. In addition, chlorine-based antimicrobials are essential for helping to prevent the spread of disease causing microorganisms in swimming pools, schools, childcare centers and hospitals.

The proposed DTSC labeling regulation is duplicative of the FIFRA labeling requirements for sodium hypochlorite and other antimicrobials that may contain very low levels of perchlorate contamination. FIFRA labels are already labeled as an "environmental hazard" with a warning that "It is a violation of Federal Law to use this product in a manner inconsistent with its labeling." To add Perchlorate to the current FIFRA labeling requirement would discourage the use of FIFRA approved and labeled products, resulting in potentially serious risks to public health. Alternative products may not be as effective against microbial contaminants, and provide less protection from waterborne diseases.

In addition, the Developmental and Reproductive Toxicant (DART) Identification Committee has determined that perchlorate has not been clearly shown to cause reproductive toxicity and has declined to add it to the Proposition 65 chemical list. While further testing and evaluation is necessary concerning the potential health affects of perchlorate, the promulgation of regulations without the proper scientific evidence should be discouraged.

Finally, there would be no corresponding benefit from this labeling requirement. As discussed below, existing laws and codes already govern the handling and disposal of antimicrobials. The proposed regulation would not create any new handling and disposal restrictions for antimicrobials. Therefore, the proposed warning that "special handling and disposal restrictions may apply" would be misleading to antimicrobial users.

3. Precedent Setting

Perchlorate is only one of many chemicals that may have potential health impacts. Thereby, DTSC is setting a precedent, which could lead to the requirement for listing additional chemistry on the labels of other products.

4. Product and Legal Liability

By requiring antimicrobials to be labeled or marked as a "Perchlorate Material" DTSC is equating an antimicrobial product (which has been used for over 100 years to protect our water) to rocket propellant. The parallel is clearly unjustified and not the intent of AB 826. Because of this labeling requirement, individuals may utilize alternative products that are not as effective or efficient at sanitizing and disinfecting our water sources and protecting us from unwanted bacteria, viruses, and other water borne diseases. Additionally, this labeling greatly increases the potential liability risk to manufacturers and users of antimicrobial products without the adequate scientific evidence to support it.

D. Similar Exemptions

All products that are found to be adequately regulated should be given the same exemption status. The proposed regulation grants exemptions to food, crops, and pharmaceuticals because those products are subject to existing regulations that provide adequate protection. As described in the previous sections, antimicrobial products are already subjected to numerous Federal, State, and local regulations. Therefore, antimicrobials should be afforded the same exemption proposed for food, crops, and pharmaceuticals.

E. Notification Requirement

The intent of the legislature was to use the business plan as notification and its inclusion in the bill is in an effort to avoid unnecessary duplication of, or interference with existing requirements. AB 826 specifically states:

- a. SEC. 7. 25504.1 Notwithstanding any other law, including, but not limited to, the quantity limitations and exemptions specified in Section 25503.5, a business that handles any amount of perchlorate material, as defined in subdivision (c) of 25210.5, shall prepare and submit to the administering agency a business plan pursuant to Section 25503.5 and an inventory form pursuant to Section 25509, both of which shall address all perchlorate materials handled by that business."

Also under the proposed DTSC notification BMP, all grocery stores, hardware stores, convenience stores, pool distributors, water municipalities, dairy farmers, and individual pool service companies would have to provide a one-time notification to the DTSC. It was not the intent of DTSC to require the thousands of stores or companies that handle antimicrobials to report to DTSC.

Conclusion

To summarize,

- The original intent of the legislation was to protect drinking water supplies and not to regulate antimicrobial products.
- The proposed regulation will be duplicative of existing Federal, State, and local regulations and Uniform Fire Codes.
- Additional labeling of antimicrobials, which are registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is not required.
- The same exemption applied for food, crops, and pharmaceuticals should be extended for antimicrobials.
- The proposed notification provisions would unnecessarily require thousands of businesses that handle antimicrobials to report to DTSC.

Based on the above facts and supporting documentation, we believe the justification for exemption of antimicrobials from this regulation has been sufficiently demonstrated, in concert with the rules, regulations and guidance of the laws of the State of California. We request that DTSC exempt antimicrobials from this proposed regulation.

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Contact: John Ulrich (916) 989-9692

Chemistry Council (CCC)

1300 Wilson Blvd.
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Contact: Kip Howlett Jr. (703) 741-5850

Chlorine Institute (CI)

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Contact: Gary Trojak (703) 741-5760

Soap & Detergent Association (SDA)

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Contact: Dennis Griesing
(202) 347-2900

Consumer Specialty Products Association (CSPA)

900 17th Street, NW, Suite 300
Washington, DC 20006-2506
Contact: Bill Lafield (202) 872-8110

Attachments:

- Appendix A – Generic Sample of USEPA approved sodium hypochlorite label
- Appendix B – Overview of USEPA pesticide approval process

The **Chemical Industry Council of California (CICC)** is a voluntary trade association comprised of large and small chemical manufacturers and distributors throughout California. CICC represents 105 facilities, including: 43 manufacturing plants, five research labs, and 67 sales, service and distribution centers. Our California members account for annual sales in excess of \$3 billion and directly employ more than 5700 workers, with combined annual payroll in excess of \$283 million.

Chlorine Chemistry Council (CCC), a business council of the American Chemistry Council, is a national trade association representing manufacturers and users of chlorine and chlorine products.

The **Chlorine Institute, Inc.**, founded in 1924, is a 210 member, not-for-profit trade association of chlor-alkali producers worldwide, as well as packagers, distributors, users, and suppliers. The Institute's mission is the promotion of safety and the protection of human health and the environment in the manufacture, distribution, and use of chlorine, sodium hydroxide, potassium hydroxide, and sodium hypochlorite, plus the distribution and use of hydrogen chloride.

The **Soap and Detergent Association (SDA)** is a national trade association representing the formulators of soaps, detergents, and cleaning products both for the consumer as well as the industrial and institutional market. SDA member products are found in homes as well as hospitals, schools, nursing homes, food service establishments, hotels, office buildings and manufacturing facilities.

Consumer Specialty Products Association (CSPA) is a voluntary, non-profit national trade association representing more than 250 companies engaged in the manufacture, formulation, distribution, and sale of products for household, institutional, commercial and industrial use. CSPA member companies' wide range of products includes antimicrobial products (i.e., disinfectants, sanitizers) antimicrobial cleaners, household insecticides, air care products, automotive specialty products, detergents and cleaning products, polishes, and floor maintenance products, and numerous types of aerosol products.

**Appendix A – Generic Sample of USEPA Approved
Sodium Hypochlorite Label**

Note: The USEPA mandates that the instructions in this sample label be on the product label. Individual use applications under the “Directions for Use” section are individually placed on the actual product label depending on the intended use of the customer. New directions for use or changes to the existing directions are not allowed without prior approval of the USEPA.

Brand Name

Active Ingredient:

Sodium Hypochlorite	12.5%
Inert Ingredients:	<u>87.5%</u>
Total	100.0%

**KEEP OUT OF REACH OF CHILDREN
DANGER**

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes • Call a poison control center or doctor for treatment advice.
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	

Manufactured & Packaged by:

Company Name & Address

EPA REG. NO.

EPA Est. No.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

STORAGE AND DISPOSAL

Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration. In case of spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not reuse container but place in trash collection. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage, as necessary, to obtain the required level of available chlorine.

SWIMMING POOL WATER DISINFECTION

For a new pool or spring start-up, super-chlorinate with 52 to 104 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Adjust and maintain pool water pH between 7.2 to 7.6. Adjust and maintain the alkalinity of the pool to between 50 to 100 ppm.

To maintain the pool, add manually or by a feeder device 11 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 to 1.0 ppm by weight. Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kit. Frequency of water treatment will depend upon temperature and number of swimmers.

Every 7 days, or as necessary, super-chlorinate the pool with 52 to 104 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Do not re-enter pool until the chlorine residual is between 1.0 to 3.0 ppm.

At the end of the swimming pool season or when water is to be drained from the pool, chlorine must be allowed to dissipate from treated pool water before discharge. Do not chlorinate the pool within 24 hours prior to discharge.

WINTERIZING POOLS - While water is still clear & clean, apply 3 oz. of product per 1000 gallons, while filter is running, to obtain 3 ppm available chlorine residual, as determined by a suitable test kit. Cover pool, prepare heater, filter and heater components for winter by following manufacturers' instructions.

SPAS, HOT-TUBS, IMMERSION TANKS, ETC.

SPAS/HOT TUBS - Apply 5 oz. of product per 1000 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water to between 7.2 and 7.8. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

To maintain the water, apply 5 oz. of product per 1000 gallons of water over the surface to maintain a chlorine concentration of 5 ppm. After each use, shock treat with 8 oz. of this product per 500 gallons of water to control odor and algae.

During extended periods of disuse, add 3 oz. of product daily per 1000 gallons of water to maintain a 3 ppm chlorine concentration.

HUBBARD AND IMMERSION TANKS - Add 5 oz. of this product per 200 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use, drain the tank. Add 5 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths. **(NOT FOR USE IN CALIFORNIA)**.

HYDROTHERAPY TANKS - Add 1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to re-establish a 200 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight.

Sanitizers used in automated systems may be used for general cleaning but may not be re-used for sanitizing purposes.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to re-establish a 200 ppm residual. Do not rinse equipment with water after treatment.

Sanitizers used in automated systems may be used for general cleaning but may not be re-used for sanitizing purposes.

FLOW/PRESSURE METHOD - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine. Discard the first portion of milk or beverage dispensed from the equipment following sanitization.

CLEAN-IN-PLACE METHOD - Thoroughly clean equipment after use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system.

Close drain valves and hold under pressure for at least 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine. Discard the first portion of milk or beverage dispensed from the equipment following sanitization.

SPRAY/FOG METHOD - Pre-clean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 6 oz. product with 10 gallons of water. Use spray or fogging equipment, which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with 200 ppm solution.

SANITIZATION OF POROUS FOOD CONTACT SURFACES

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not soak equipment overnight.

Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain.

Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water.

Prior to using equipment, rinse (or immerse) all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

SPRAY/FOG METHOD - Pre-clean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 6 oz. product with 10 gallons of water. Use spray or fogging equipment, which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water.

SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SPRAY/FOG METHOD - Pre-clean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing, the product in a ratio of 2 oz. product with 10 gallons of water. Use spray or fogging equipment, which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES

RINSE METHOD - Prepare a disinfecting solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by

weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the solution to drain. Do not rinse equipment with water after treatment.

SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SPRAY/FOG METHOD - After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 6 oz. of this product with 10 gallons of water. Use spray or fogging equipment, which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

SEWAGE & WASTEWATER EFFLUENT TREATMENT

The disinfection of sewage effluent must be evaluated by determining the total number of coliform bacteria and/or fecal coliform bacteria, as determined by the Most Probable Number (MPN) procedure, if the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary wastewater effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection, the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, should be the final and primary standard and the chlorine residual should be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting wastewater disinfection

1. **Mixing:** It is imperative that the product and the wastewater be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the wastewater.
2. **Contacting:** Upon flash mixing, the flow through the system must be maintained.
3. **Dosage/Residual Control:** Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain predetermined, desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minutes contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

SEWAGE AND WASTEWATER TREATMENT

EFFLUENT SLIME CONTROL - Apply a 100 to 1000 ppm available chlorine solution at a location, which will allow complete mixing. Prepare this solution by mixing 10 to 100 oz. of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 3 oz. of this product with 100 gallons of water.

FILTER BEDS- SLIME CONTROL: Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 80 oz. of product per 20 sq. ft. evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and backwashing filter.

DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)

PUBLIC SYSTEMS- Mix a ratio of 1 oz. of this product to 100 gallons of water. Begin feeding this solution with a hypo-chlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.

INDIVIDUAL SYSTEMS: DUG WELLS - Upon completion of the casing (lining.) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS - Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. This solution can be made by thoroughly mixing 1 oz. of this product into 10 gallons of water. Add 5 to 10 gallons, of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start-pump and pump water until strong order of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS - Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well should be disinfected. Consult your local Health Department for further details.

EMERGENCY DISINFECTION - When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 1 drop of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a light chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers several times.

PUBLIC WATER SYSTEMS

RESERVOIRS: ALGAE CONTROL - Hypo-chlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

MAINS - Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

NEW TANKS, BASINS, ETC. - Remove all physical soil from surfaces. Place 20 oz. of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to surface.

NEW FILTER SAND - Apply 80 oz. of this product for each 150 to 200 cubic feet of sand. The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand.

NEW WELLS - Flush the casing with a 50 ppm available chlorine solution of water containing 5 oz. of this product for each 100 gallons of water. The solution should be pumped or fed by gravity into the well after thorough mixing with agitation: The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

EXISTING EQUIPMENT - Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 21 oz. of this product for each 5 cubic feet capacity, (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 5 oz. of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

EMERGENCY DISINFECTION AFTER FLOODS

WELLS - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 5 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Retreat well if water samples are biologically unacceptable.

RESERVOIRS - In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

BASINS, TANKS, FLUMES, ETC. Thoroughly clean all equipment, then apply 20 oz. of product per 5 cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 5 oz. of this product for each 5 gallons of water (1000 ppm available chlorine). Allow to stand for 2 to 4 hours, flush and return to service.

FILTERS- When the sand filter needs replacement; apply 80 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over

the surface at the rate of 80 oz. per 20 sq. ft. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 80 oz. of this product per each 50 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours drain, and proceed with normal back washing.

DISTRIBUTION SYSTEM - Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until a consistent available chlorine residual of at least 10 ppm remains after a 24 hour retention time. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER FIRES

CROSS CONNECTIONS OR EMERGENCY CONNECTIONS - Hypochlorination or gravity feed equipment should be set up near the intake of the untreated water supply. Apply sufficient product to give a chlorine residual of at least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER DROUGHTS

SUPPLEMENTARY WATER SUPPLIES - Gravity or mechanical hypochlorite feeders should be set up on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC. - Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 5 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER MAIN BREAKS

MAINS - Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

COOLING TOWER/ EVAPORATIVE CONDENSER WATER

SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons, of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when

half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

LAUNDRY SANITIZERS

Household Laundry Sanitizers

IN SOAKING SUDS - Thoroughly mix 2 oz. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

IN WASHING SUDS - Thoroughly mix 2 oz. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes then add soap or detergent and start the wash/rinse cycle.

Commercial Water Sanitizers

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 2 oz. of this product with 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.

FARM PREMISES

Remove all animals, poultry, and feed from premises, vehicles and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other facilities occupied or transversed by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1000 ppm available chlorine for a period of 10 minutes. A 1000 ppm solution can be made by thoroughly mixing 11 oz. of this product with 10 gallons of water. Immerse all halters, ropes and other types of equipment used in handling and restraining animals or poultry, as well as the cleaned forks, shovels, and scrapers used for removing litter and manure. Ventilate buildings, cars, boats and other closed spaces. Do not house livestock or poultry or employ equipment until chlorine has been dissipated. All treated feed racks; mangers, troughs, automatic feeders, fountains and waterers must be rinsed with potable water before reuse.

PULP AND PAPER MILL PROCESS WATER SYSTEMS

SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

AGRICULTURAL USES

POST-HARVEST PROTECTION - Potatoes can be sanitized after cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per tons of potatoes. Thoroughly mix 1 oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

BEE CELLS & BOARDS - Disinfect leaf cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 1 Tsp. of this product to 100 gallons of water.

The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odors have dissipated.

FOOD EGG SANITIZATION - Thoroughly clean all eggs. Thoroughly mix 2 oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130 degrees F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be re-used to sanitize eggs.

FRUIT & VEGETABLE WASHING - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 5 oz. of this product in 200 gallons of water to make a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

AQUACULTURAL USES

FISH PONDS - Remove fish from ponds prior to treatment. Thoroughly mix 103 oz. of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.

FISH POND EQUIPMENT - Thoroughly clean all equipment prior to treatment. Thoroughly mix 2 oz. of this product to 10 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for one hour.

MAINE LOBSTER PONDS - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 6,200 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rock and dam are treated with product. Permit high tide to fill the pond and then close the gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond.

CONDITIONING LIVE OYSTERS Thoroughly mix 5 oz. of this product to 10,000 gallons of water at 50 to 70 degree F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops 0.05 ppm or the temperature falls below 50 degree F. **(NOT FOR USE IN CALIFORNIA)**

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS - Prepare a solution containing 200 ppm of available chlorine by mixing 2 oz. of product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm as determined by a test kit.

SANITIZATION OF DIALYSIS MACHINES

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 6 oz. of this product to 10 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20 degree C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and **DO NOT** reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to insure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multi-patient hemodialysate systems. This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudamonicide) when tested by AOAC and EPA Test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program, which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes.

Consult the guidelines for hemodialysate systems, which are available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.

ASPHALT OR WOOD ROOFS AND SIDINGS **(NOT FOR USE IN CALIFORNIA)**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution. Mix 5 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.

BOAT BOTTOMS

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 18 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not

discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit.

ARTIFICIAL SAND BEACHES
(NOT FOR USE IN CALIFORNIA)

To sanitize the sand, spray a 500 ppm available chlorine solution containing 5 oz. of this product per 10 gal. of water at frequent intervals. Small areas can be sprinkled with a watering can.

TOILET BOWL SANITIZERS
(NOT FOR USE IN CALIFORNIA)

(These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate.)

(Claims are limited to sanitization. No claims for disinfection are permitted.)

Brief Overview Description of FIFRA Labeling Requirements for Sodium Hypochlorite

Pursuant to our meeting on November 8, 2005, we committed to provide an outline of the requirements necessary for product registration under the current FIFRA regulations. This appendix fulfills that commitment.

Federal and State regulations describe fairly intricate and complex procedures for obtaining approval to sell pesticidal materials. Often significant expense is incurred. It is in our best interest to insure customers receive the correct product with the correct labeling for their intended use. Failure to properly comply could result in fines and penalties for both the manufacturer and consumer.

In order to have a label approved, extensive environmental, toxicological and fate studies are conducted and data collected concerning:

- Acute toxicology data on the formulated product
- Product chemistry data
- Residue chemistry data is no longer required for most uses.
- Efficacy data (product performance)
- Phytotoxicity data if used on a plant
- Fish and wildlife data, if applicable
- Chronic toxicology data, if product contains a new active ingredient to California
- Environmental fate data for the first agricultural use of the active ingredient in California
- Medical management data, if product contains a new active ingredient to California

After scientific evaluation of the data, the decision to register or to deny is posted for a 30-day public comment period.

Under FIFRA, substantial Environmental and Health Risk information must be supplied on the pesticide package label. This information is supported by the product Material Safety Data Sheet (MSDS), which is considered part of the label for a pesticide. Therefore, changes to the pesticide label will require approval by the EPA and incur considerable costs to the manufacturer and consumer.

Once a label is registered under FIFRA, it is a requirement for raw material records to be kept by the manufacturer. These Certificates of Analysis (CofA) are kept for a predetermined amount of time and are subject to periodic audit by both the State and Federal EPA.

In addition to the raw material record retention requirements, manufacturers are required to retain production and product data. Required are such parameters as

strength, purity, fill weights, and inventory records. These records are retained for a minimum of 2 years as per the FIFRA regulations.

Also required is an annual registration renewal by both the State and Federal EPA. If any changes to EPA regulations are made, these changes must be incorporated into the FIFRA label within 18 months.

Once the product has been manufactured, properly documented and labeled with a State and EPA approved label, detailed records of shipment must be maintained. Records of each shipment are kept as per FIFRA regulations for a minimum of 2 years.

Lastly, it is a requirement under FIFRA to document and report any adverse reactions stemming from the approved use of the product. These records are of course subject to audit at any time by either the State or Federal EPA.

As you can see from the above information and the attached generic FIFRA label in Appendix A, our industry is already strictly regulated under the FIFRA Act. Please pay particular attention to the label sections detailing “Hazards to Humans and Domestic Animals”, “Environmental Hazards”, and “Storage and Disposal”.

For additional details regarding the registration of FIFRA products in California, please contact the Department of Pesticide Regulations (DPR) , 916-445-4300.

EMBASSY OF CHILE
1732 Massachusetts Ave., N.W.
WASHINGTON, D.C. 20036

Washington, D.C., November 9 2005

Mr. Leonard Robinson, Acting Director
California Department of Toxics Substances Control
California Environmental Protection Agency
1001 I Street, Suite 200
Sacramento, CA 95814

Dear Mr. Robinson:

I wish to express the concerns of the Chilean Government over the inclusion of Chilean fertilizer in your Agency's current rulemaking restricting industries that handle perchlorate-containing materials (Chapter 33, Management of Perchlorate Materials, §67384). We view this to be unwarranted for the following reasons:

Fertilizers are Essential Sources of Plant Nutrients: There is no valid reason for inclusion of Chilean fertilizers in your Agency's perchlorate rule. The US Environmental Protection Agency has publicly stated, "Chemical fertilizer had been reported to be a potential source of perchlorate contamination, but new investigations by the Agency have determined that this is not an issue for agricultural applications." (*EPA, Jan 16, 2002, NCEA-h1-0503*); and "On account of its low usage, perchlorate from Chilean nitrates cannot represent a significant anthropogenic source of perchlorate nationwide, regardless of the perchlorate content." (*EPA 600/R-01/049, May 2001, Survey of Fertilizers and Related Materials for Perchlorate – Final Report*). In addition, the Santa Ana Regional Water Board reported, "Although the low concentrations of perchlorate in Chilean nitrate is believed to be a possible source of perchlorate found in ground water across the country, it has not yet clearly been determined to be a source anywhere where perchlorate is present in ground water." (*Overview of the Occurrence of Perchlorate in the Santa Ana Region, RWQCB, March 12, 2004*).

The proposed rule would be inconsistent with these federal and state determinations, exempt many other products grown or used in California that contain perchlorate, but would require bags of Chilean fertilizer to be labeled as an "environmental hazard" requiring special handling and reporting by users. Chilean fertilizer is an important source of plant nutrients long valued by agriculture and horticulture. Many speculate about fertilizer use when it seems difficult to identify other sources of contamination. But with all of the many contaminated sites in California, there has not been a single site where Chilean fertilizers have been shown to be the cause of contamination.

DTSC's Rule Would Ban Chilean Nitrate – Not Authorized by AB 826: If approved the DTSC rule would establish a crippling trade barrier for the sale of Chilean fertilizers in California, and financially damage a Chilean fertilizer company highly respected by Californian organic farmers, nursery and greenhouse managers, and suppliers of fertilizer products for home lawns and plants for offices and homes. The U.S. national companies that include Chilean fertilizers in their blended product lines for various markets in California and other states would most definitely avoid them if forced to label their retail products as an "environmental hazard." Also, because nationwide chain stores and brands are very important in this market, your Agency's could have a very damaging effect on the Chilean fertilizer company. Chile and the United States have in place a bilateral trade agreement that is designed to facilitate movement of goods in trade between our nations and eliminate artificial barriers to trade. Your rulemaking would essentially ban Chilean nitrate from the United States – certainly not what the United States and Chile had in mind with their bilateral trade agreement, or what the California Assembly authorized with AB 826.

EMBASSY OF CHILE
1732 Massachusetts Ave., N.W.
WASHINGTON, D.C. 20036

For all of these reasons and more, the Government of Chile urges DTSC to include fertilizers among the many other products it will exempt from this pending rulemaking.

Sincerely,

Andrés Bianchi
Ambassador of Chile

- Cc: Dr. Allan Lloyd, Secretary
California Environmental Protection Agency
State of California
State Capitol
Sacramento, CA 95814
- Cc: Ms. Robin Boyer
Office of the Governor
State of California
State Capitol
Sacramento, CA 95814
- Cc: A.G. Kawamura, Secretary
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814
- Cc: Watson Gin, Deputy Director
Hazardous Waste Management Program
Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95812
- Cc: Peggy Harris, Chief
Regulatory Programs Division
Department of Toxic Substances Control
1001 I Street
Sacramento, CA 95812



November 9, 2005

Department of Toxic Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
P.O. Box 806
Sacramento, CA 95812-0806

Dear Mr. Nieto:

This provides The Clorox Company's comments in response to the development by the Department of Toxic Substances Control (DTSC) of draft regulations for Perchlorate Best Management Practices (BMP).

Clorox, with world headquarters in Oakland, California, for ninety years manufactures and markets some of the best known brands, including *Clorox* bleach, *Formula 409* and *Pine-Sol* home cleaning products, *Fresh Step* cat litter, *Kingsford* barbecue products, *Hidden Valley Ranch* salad dressing, *Brita* water filters, *STP* and *Armor All* auto care products, and *Glad* plastic bags and wraps. We remain strongly committed to maintaining the safety of our products and minimizing the impacts of our products and manufacturing processes on the environment, as well as understanding the public health benefits that our products provide.

- **Sodium hypochlorite bleach is one of the fastest acting, most effective, and most economical antimicrobial agents that is available to protect public health.** Sodium hypochlorite bleach has the highest activity among household biocides against the widest range of organisms. Its broad spectrum is effective against many common pathogenic microorganisms that cause food poisoning and it is typically the biocide of choice to use in response to natural disasters. For example, it is widely distributed by the American Red Cross to purify drinking water in emergency situations when boiling water is not possible. Under typical use scenarios, use of sodium hypochlorite bleach in kitchens and bathrooms kills the germs that are often implicated in the spread of disease (e.g., *E. coli*, *Salmonella*, *Staphylococcus*, *Streptococcus*, and other microorganisms). Sodium hypochlorite bleach is also an effective disinfectant for laundry. By comparison, the combination of standard detergent and hot water alone has limited antimicrobial activity.
- **Clorox seeks clarification from DTSC as to the scope of the regulations. We believe that the draft proposal should clearly state that the BMP for Perchlorate Materials does not apply to sodium hypochlorite bleach that is intended for household and institutional use.** We firmly believe that the additional regulation of household and institutional bleach was clearly NOT the intent of the Legislature when the Perchlorate Contamination Prevention Act was adopted in 2003. As indicated in the Assembly analysis of AB 826 (dated September 11, 2003), perchlorate "is used primarily in the combustion of rocket fuel and explosives. In smaller amounts, it has been used for fireworks, agricultural uses (in the production of a rare Chilean pesticide, for example), and some industrial uses (i.e., road flares), but the primary source of contamination in the state remains solid rocket fuel."
- **Existing state and federal regulations already more than reasonably, feasibly, and adequately address the manufacturing, use and disposal of sodium hypochlorite bleach for household and institutional use in the areas of labeling, packaging, containment, reporting, recordkeeping, discharge and disposal, and education and training.** Household disinfectant bleach, as well as many other bleach-based disinfectant cleaning products, generically referred to as "antimicrobial" products, are strictly regulated and labeled as "pesticides" under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and enforced by the US Environmental Protection Agency. In addition, the California Department of Pesticide Regulation and the US Department of Transportation also strictly regulate the reporting, record keeping, handling, storage, use and disposal of sodium hypochlorite bleach as authorized under applicable laws. Adding an additional level of complexity to existing sodium hypochlorite regulations would increase resource requirements of both producers and regulators but provide questionable environmental and health benefits.

P.O. Box 24305
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- **Household and institutional sodium hypochlorite bleach itself will not reach the environment except through deliberate introduction.** Our products are formulated for safe use and disposal down the drain. However, some of the chlorinated organic by-products it generates reach the environment in low concentrations, but household and institutional use of hypochlorite is a negligible source of these contaminants. Further, all but a small portion of these by-products biodegrades readily. The remaining by-products do not increase the toxicity of treated sewage, and they are not expected to bioaccumulate.

We appreciate the opportunity to comment on these very important draft regulations and would be happy to provide additional information on request. Please contact Robin Gentz, Manager in Clorox's Government Affairs Department at (510) 271-7081.

Sincerely,

ORIGINAL SIGNED

Victoria Jones
Director, Government Affairs

c: Ms. Laurie E. Nelson, Randlett/Nelson Associates

RECEIVED BY:
Hazardous Waste Management

NOV 10 2005

DEPARTMENT OF TOXIC
SUBSTANCES CONTROL



DEPARTMENT OF THE NAVY
COMMANDER NAVY REGION SOUTHWEST
937 NO. HARBOR DR.
SAN DIEGO, CA 92132-0058

IN REPLY REFER TO:
5090
Ser N05HLR1/ 3395
November 9, 2005

Ms. Peggy Harris, PE
Chief, Regulatory and Program Development Division
Hazardous Waste Management Division
Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812-0806

Dear Ms. Harris:

The Department of Defense Regional Environmental Coordinator Team for Region 9 (DOD REC 9) is very appreciative of the serious consideration that you have given to national security issues in the October 25, 2005 draft regulations for Perchlorate Best Management Practices (BMPs). As we have discussed over the last several months as this regulation has developed, perchlorate containing substances are part and parcel of the national security defense mission and proper management, including but not limited to labeling, storage, containment, and range assessments and these items - are an integral part of the Defense Department's strategy for sustained readiness. We have discussed the attached recommended changes with your staff in a teleconference on November 7, 2005 and staff was amenable to the attached changes. As such, we submit the attached red line strike out to amend the October 25, 2005 draft regulation.

My point of contact for this issue is Ms. Mary Kay Faryan who can be reached at 619-532-4301.

Sincerely,

ORIGINAL SIGNED

/ RENE PREVINO AIA
EXECUTIVE DIRECTOR
NAVY REGION SOUTHWEST

Encl: Perchlorate BMP Draft Language

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Perchlorate BMP Draft Language

October 25, 2005

Chapter 33. Best Management Practices for Perchlorate Materials

Article 1. General

§ 67384.1 Scope

(a) This chapter establishes the best management practices for perchlorate materials as described in section 67384.2.

§ 67384.2 Applicability

(a) Effective July 1, 2006, the best management practice requirements of this chapter shall apply to all persons managing perchlorate materials as described in section 67384.3, except those listed in subsection (b) of this section.

(b) The best management practice requirements of this chapter do not apply to the following perchlorate materials:

- (1) Perchlorate materials managed as a hazardous waste in compliance with all applicable requirements of California hazardous waste law;
- (2) Onsite perchlorate-contaminated media under the oversight of a regulatory agency with jurisdiction pursuant to applicable environmental statute that addresses response, removal or remedial action of the perchlorate contamination;
- (3) Perchlorate materials containing less than six (6) parts per billion (ppb) of perchlorate;
- (4) Consumer goods manufactured in California prior to, but no later than December 31, 2006, and consumer goods transported into California prior to, but no later than to December 31, 2006;
- (5) Food, crops, and pharmaceuticals; and
- (6) Combustion residuals of perchlorate materials.

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§ 67384.3 Definitions

The following definitions shall apply to the terms used in this chapter:

"Business" means an employer, self-employed individual, trust, firm, joint stock company, corporation, partnership, or association. For purposes of this chapter, "business" includes a business organized for profit, a nonprofit business and all of the following:

- (a) The federal government, to the extent authorized by federal law.
- (b) Any agency, department, office, board, commission, or bureau of state government, including, but not limited to, the campuses of the California Community Colleges, the California State University, and the University of California.
- (c) Any agency, department, office, board, commission, or bureau of a city, county or district.

"Commercial" means used by a business to generate revenue or promote the sale of goods or services.

For purposes of this chapter, the term "commercial" does not include material

or products used under federal, military, or space launch contract requirements. "Combustion residual" means any paper, ash, wire, or other physical material that remains after the perchlorate-containing material has been substantially consumed. For purposes of this chapter, this term does not include items that retain inherent explosive properties or treatment of residuals of perchlorate containing waste.

~~For purposes of this chapter, this term does not include the treatment residuals of perchlorate-containing waste or explosive residuals.~~

"Consumer commodity" means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use.

"Consumer good" means a product or commodity used by a business that is packaged in a form similar to a consumer commodity.

"Contaminated media" means soil, sediment, surface water, groundwater contaminated with perchlorate.

"Dangerous fireworks", as defined in Health and Safety Code, section 12505, means all of the following:

(a) Any fireworks which contain any of the following:

(1) Arsenic sulfide, arsenates, or arsenites.

(2) Boron.

(3) Chlorates, except:

(A) In colored smoke mixture in which an equal or greater amount of sodium bicarbonate is included.

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(B) In caps and party poppers.

(C) In those small items (such as ground spinners) wherein the total powder content does not exceed 4 grams of which not greater than 15 percent (or 600 milligrams) is potassium, sodium, or barium chlorate.

(4) Gallates or Gallic acid.

(5) Magnesium (magnesium-aluminum alloys, called magnalium, are permitted).

(6) Mercury salts.

(7) Phosphorous (red or white except that red phosphorus is permissible in caps and party poppers).

(8) Picrates or picric acid.

(9) Thiocyanates.

(10) Titanium, except in particle size greater than 100-mesh.

(11) Zirconium.

(b) Firecrackers.

(c) Skyrockets and rockets, including all devices which employ any combustible or explosive material and which rise in the air during discharge.

(d) Roman candles, including all devices which discharge balls of fire into the air.

(e) Chasers, including all devices which dart or travel about the surface of the

ground during discharge.

(f) Sparklers more than 10 inches in length or one-fourth of one inch in diameter.

(g) All fireworks designed and intended by the manufacturer to create the element of surprise upon the user. These items include, but are not limited to, auto-foolers, cigarette loads, exploding golf balls, and trick matches.

(h) Fireworks known as devil-on-the-walk, or any other firework which explodes through means of friction, unless otherwise classified by the State Fire Marshal pursuant to this part.

(i) Torpedoes of all kinds which explode on impact.

(j) Fireworks kits.

(k) Such other fireworks examined and tested by the State Fire Marshal and determined by him, with the advice of the State Board of Fire Services, to possess characteristics of design or construction which make such fireworks unsafe for use by any person not specially qualified or trained in the use of fireworks.

"Department" means the Department of Toxic Substances Control.

~~"Explosive residuals" means perchlorate-containing material after the use of high explosives, pyrotechnics, fireworks, or propellants. For purposes of this chapter, this term does not include combustion residuals.~~

"Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere

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and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.

The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks.

"Food" means any raw or processed substance, beverage, including water, or ingredient intended to be used as food, drink, confection, or condiment for human or other animal consumption.

"Household" means a private residence. For the purpose of this section, household does not mean a hotel, motel, bunkhouse, ranger station, crew quarters, campground, picnic ground, or day-use recreation facility.

"Household waste" means any materials, including garbage or trash that is generated by residents through the use of a consumer commodity in a household.

"Highway", as defined in California Vehicle Code section 360, means a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes streets.

"Managing perchlorate materials" means generation, storage, transportation, manufacture, processing, fabrication, packaging, use, reuse, treatment, transfer, pumping, recovery, recycling, spill response, disposal, and discharge.

"Material Safety Data Sheet" means written or printed material concerning a hazardous chemical which is prepared in accordance with title 29 of the Code of Federal Regulations, section 1910.1200(g)

“Military munitions”, as defined in the Code of Federal Regulations, section 260.10, means all ammunition products and components produced or used by or for the U.S. Department of Defense (DOD) or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons

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program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed. For the purposes of this chapter, this term does not include fire works or dangerous fire works.

“Non-hazardous waste” means a waste that does not meet the definition of hazardous waste as defined in title 22 of the California Code of Regulations, section 66260.10.

“Packaging” means a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements of this chapter.

“Perchlorate material” as defined in Health and Safety Code 25210.5 means all perchlorate-containing materials including perchloric acid and perchlorate compounds. “Perchlorate material” includes all forms of matter, goods, and products and shall not be limited by other statutory or regulatory definitions of “material”.

“Pyrotechnic operator”, as defined in Health and Safety Code, section 12527, means any licensed pyrotechnic operator, who by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted.

“Pharmaceutical”, as defined in title 21 of the United States Code, section 321(g)(1), means a prescription or over-the-counter human or veterinary drug, including, but not limited to, a drug as defined in Section 109925 or the Federal Food, Drug, and Cosmetic Act, as amended.

“Public display of fireworks” means, as defined in Health and Safety Code, section 12524, an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of fireworks.

“Public safety activity” means any activity intended to protect people or property, including, but not limited to, law enforcement services, fire protection and suppression, emergency medical care, tow operations, emergency services,

public utility service and repair, homeland security, and highway maintenance and repair.

“RWQCB” means the California Regional Water Quality Control Board.

“Spill” means unintentional release of perchlorate material.

For purposes of this chapter, this term does not include contaminated media excluded under section 67384.2(b)(2) of this chapter.

“Water-resistant package” means a package that when closed, under conditions incidental to handling, is substantially impervious to rain, spray, and run on.

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§ 67384.4 Labeling best management practice requirements for perchlorate materials

(a) Persons who manufacture perchlorate materials, repackage perchlorate materials, distribute perchlorate materials for sale, receive perchlorate materials for resale or use in California, or generate a perchlorate containing waste shall ensure that the perchlorate materials are properly labeled. Labels shall be applied conspicuously on the exterior of all outer shipping packages and on consumer packages. All perchlorate material, except those materials listed in subsection (b) of this section, shall be labeled or marked clearly with the following, “Perchlorate Material – Environmental Hazard – special handling and disposal restrictions may apply, See www.dtsc.ca.gov/perchlorate”.

(b) The best management practice requirements of this section do not apply to the following perchlorate materials:

(1) Household waste;

(2) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;

(3) Perchlorate materials used or maintained at a site where all personnel handling the perchlorate material have received instruction on, have access to information in the workplace, and comply with the perchlorate Best Management Practice requirements of this chapter;

(4) Perchlorate materials which are accompanied with a Material Safety Data Sheet, shipping document, or package insert that includes all the information required in the label pursuant to subsection (a);

(5) Finished products produced pursuant to federal, military or space launch contract requirements;

(6) Wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges; and

(7) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity.

(c) The best management practice requirements of this section do not apply to end user of consumer goods.

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§ 67384.5 Packaging best management practices requirement for perchlorate materials

(a) Each package used for the containment of perchlorate materials under this

section, unless contained as specified in section 67384.6, shall:

(1) be designed, constructed, maintained, filled, its contents so limited, and closed, so that under conditions normally incident to handling, there will be no identifiable release of perchlorate materials to the environment; and

(2) be contained in a water-resistant package.

(b) Perchlorate-containing products that are constructed and maintained such that they meet the packaging requirement of subsection (a) need not also comply with the containment requirements specified in section 67384.6. These products may include, but are not limited to the following: batteries, air bag initiators, air bag inflators, bullets, missiles, rockets, and primers.

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§ 67384.6 Containment best management practice requirements for the storage, processing and manufacturing of perchlorate materials

(a) Unless listed in subsection (b) of this section, perchlorate materials not packaged or produced as specified in section 67384.5 during storage, processing and manufacturing, shall be contained in weather resistant structures with floors that:

(1) are adequately water-resistant to prevent seepage into or out of the containment structure;

(2) do not have drains that release to the environment; and

(3) are of adequate strength to support the loads.

(b) Containment requirements specified in this section shall not apply to the following:

(1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;

(2) Manufacturing processes, which because of explosion or fire risk, are not conducted within a confined structure, but meet all other requirements of subsection (a) above, and

(3) Fertilizers stored for less than thirty (30) days on the site of intended application.

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§ 67384.7 Notification best management practice requirements for perchlorate materials

(a) Any business managing perchlorate materials in the course of its operations in an amount greater than 500 pounds of solids or 55 gallons of liquids, shall within thirty days after initial handling of perchlorate materials, or on or before January 1, 2007 whichever comes later, submit to the Department a notification containing the information specified below.

Business Name

Location Address

Mailing Address

Business NAICS

Nature of Business

EPA ID Number

Contact Name

Title

Mailing Address

E-mail Address

Phone Number

List of Perchlorate

Materials Handled:

Check the appropriate boxes to identify if the quantity is:

How much perchlorate materials... None Less than or equal

to 500 pounds of solids or 55 gallons

of liquids a year

Greater than or equal

to 500 pounds of solids or 55 gallons of liquid a year

does your business manufacture or process?

does your business use to manufacture or produce a product?

are used?

are stored?

are offered for sale or procurement?

are generated as waste?

are treated or recycled onsite?

are treated or recycled offsite?

are discharged under a permit or waiver issued by a California RWQCB?

are sent for offsite disposal?

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(b) The weight or volume of the following products or materials shall not be considered when calculating the 500 pound or 55 gallon notification threshold of subsection (a);

(1) Automobiles;

(2) Appliances; and

(3) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach.

(c) The requirements of this section do not apply to military munitions managed in accordance with Department of Defense regulations.

(d) Electronic notifications submitted under subsection (a) shall be submitted to www.dtsc.ca.gov.

(e) Written notifications submitted under subsection (a) shall be submitted to the Department by certified mail, return receipt requested to: Department of Toxic

Substances Control, Hazardous Waste Management Program, Regulatory and Program Development Division, P.O. Box 806, Sacramento, CA 95812-0806, with "Attention: Perchlorate Materials BMPs" prominently displayed on the front of the envelope.

(f) A business submitting written notification under section (a) may request that confidential business information in the notification and any information that would have site security implications be withheld from public disclosure by the Department.

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§ 67384.8 Special best management practices for flares and pyrotechnic perchlorate materials

(a) Road safety flares should be used in a manner that minimizes releases of perchlorate to the environment. As many of the following practices should be implemented to the extent practical without impeding immediate safety considerations:

- (1) Flares should be allowed to burn completely;
- (2) Flares used in an emergency incident should be limited in number and duration necessary to ensure safety; and
- (3) All personnel who routinely use flares in the normal course of employment should receive instruction on the potential environmental hazards associated with the use of perchlorate materials and on the perchlorate Best Management Practice requirements of this chapter.

(b) Marine safety flares shall be used in a manner that minimizes releases of perchlorate to the environment.

(c) Within twenty-four (24) hours of a public display of fireworks, the pyrotechnics operator, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect any explosive residuals found during the inspection of the entire firing range.

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§ 67384.9 Spill response best management practices for non-hazardous perchlorate materials

(a) For spills of non-hazardous perchlorate materials to the environment, a handler of perchlorate materials:

- (1) Shall immediately take action to stop and contain all spills of perchlorate material;
- (2) Shall determine whether any material resulting from the spill is hazardous waste, and if so, shall manage the hazardous waste in compliance with all applicable requirements of this division. The handler is considered the generator of the material resulting from the release, and shall manage it in compliance with chapter 12 of this division;
- (3) Should collect to the extent practical any material resulting from the spill;
- (4) Should decontaminate the spill area; and
- (5) Should prevent or minimize releases to storm sewers.

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§ 67384.10 Discharge/Disposal restrictions for perchlorate materials

(a) When solid non-hazardous perchlorate containing waste is land disposed in California, it shall be disposed of in either:

(1) a hazardous waste landfill, or

(2) a composite-lined portion of a non-hazardous waste landfill that meets all requirements applicable to disposal of municipal solid waste in California after October 9, 1993; if:

(A) The leachate from the landfill units receiving the perchlorate material is monitored for perchlorate; and

(B) The results of the monitoring are submitted to the Regional Water Quality Control Board.

(b) When non-hazardous liquid perchlorate containing wastewater is discharged in California, it shall only be discharge as follows:

(1) If the facility owner or operator discharges to a publicly owned treatment works (POTW), the owner or operator

(A) Shall notify the POTW and/or the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and

(B) Shall apply for a permit or a change to the existing permit conditions which specify the effluent limitations for perchlorate, if deemed necessary by the POTW agency.

(2) If the facility owner or operator discharges to surface waters, the owner or operator

(A) Shall notify the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and

(B) Shall apply for a permit or a change to the existing permit conditions which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

(3) If the facility owner or operator discharges to land, the owner or operator

(A) Shall file a Report of Discharge form to notify the appropriate Regional Water Quality Control Board, and

(B) Shall apply for a permit or a change to the existing permit conditions, or waiver which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

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(c) The POTWs receiving wastewater from business that have identified perchlorate-containing discharges, shall monitor the POTW's effluent for perchlorate and shall include the perchlorate as a constituent on their National Pollutant Discharge Elimination System (NPDES) permit.

- (d) The requirements of this section do not apply to:
- (1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach; and
 - (2) Household non-hazardous perchlorate-containing waste
- (e) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity are exempt from this subsection.

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§ 67384.11 Perchlorate restrictions

(a) On or before January 1, 2008 and every 5 years thereafter, a business that uses perchlorate-containing fertilizers, road safety flares, commercial explosives, or commercial blasting agents, in an amount greater than 500 pounds in any month, shall:

- (1) review their use of these perchlorate-containing products in order to determine if non-perchlorate-containing alternatives are available and adequate for substitution; and
- (2) review and update pollution prevention measures taken to prevent releases of perchlorate; and
- (3) submit to the Department a certification documenting the completion of both reviews and identifying the product substitution analysis relied upon in determining that a non-perchlorate-containing alternative is unavailable or inadequate; or
- (4) submit to the Department a certification stating the specific reason that product substitution and pollution prevention was not possible or was unnecessary.

(b) On or before January 1, 2008 and every 5 years thereafter, a business that uses dangerous fireworks, or solid rocket motors, containing perchlorate in amounts greater than 500 pounds in any one month at the dangerous fireworks or solid rocket motor site, shall submit to the Department:

- (1) analytical results of existing stormwater monitoring mandated by a stormwater permit authorized by the State Water Resource Control Board or an applicable Regional Water Quality Control Board that requires monitoring for perchlorate. If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the resulting analytical results. To the extent a regulatory agency has determined that perchlorate is not found at the site, this requirement will terminate.; or
- (2) any environmental monitoring results of soil and/or water within the dangerous fireworks or solid rocket motor facility or site that includes perchlorate. If the business conducts environmental monitoring that does not include perchlorate, the business shall add perchlorate to the list of constituents to be monitored and submit

to the Department the resulting analytical results. To the extent a regulatory agency has determined that perchlorate is not found at the site, this requirement will terminate.

(c) Pursuant to HSC section 25210.7, a business may not manage perchlorate materials unless the management complies with the best management practices specified in the subsections (a) and (b) above.

MICHAEL L.F. BUCK
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HANSON
BRIDGETT
MARCUS
VLAKOS
RUDY LLP

November 10, 2005

VIA EMAIL:

Ed Nieto
Department of Toxic Substances Control
1001 I Street
Sacramento, California 95812-4010

**Re: Submittal of Changes to Draft Regulations Governing Best Management Practices
for Perchlorate Materials**

Dear Mr. Nieto:

As you know, I have been working closely with several concerned representatives of California's Pyrotechnics Industry, including Pyro Spectaculars, Inc., MP Associates, Inc., and Fireworks & Stage FX America, Inc., to address the issues raised by the Department's proposed regulations governing Best Management Practices for Perchlorate Materials ("Draft Regulations").

As a result of our consultation, we submit the following suggested changes to the Draft Regulations. For your reference, I have also included a redlined version of the regulations incorporating these changes into the text.

A. Section 67384.2 Applicability

Please see minor editorial modifications to Section 67384.2(b)(2).

The following description should be added as new Section 67384.2(b)(3): "**Perchlorate-contaminated soils shipped offsite for disposal pursuant to section 67384.10 of this chapter.**" Please note the renumbering of subsections following addition of this description.

Section 67384.2(b)(6), previously subsection (b)(5), should be modified to read: "**Food, crops, pharmaceuticals, and water approved for use by the Department of Health Services; and . . .**"

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B. Section 67384.3 Definitions

Under the definition for “**Combustion residual**,” the phrase “**or explosive residuals**” should be removed from the end of the last sentence of the definition.

Subsections (a) through (k) of the definition for “**Dangerous fireworks**” should be deleted so that the entire definition reads: “**“Dangerous fireworks,” as defined in Health and Safety Code section 12505.**”

The definition for “**Explosive residuals**” should be deleted in its entirety. Revisions in other sections make the term unnecessary.

A definition for “**Net Explosive weight**” should be added to state: “**“Net explosive weight means the weight of all pyrotechnic compositions, explosives material and fuse only, as defined in title 27 of the Code of Federal Regulations, section 555.222.”**”

The definition for “**Spill**” should be modified to add the following italicized language: “**For purposes of this chapter, this term does not include *perchlorate-contaminated media excluded under section 67384.2(b)(2) of this chapter, or perchlorate material resulting from the intended use of a product.***”

C. Section 67384.4 Labeling best management practice requirements for perchlorate materials

Please see minor editorial modifications to subsection (c).

D. Section 67384.6 Containment best management practice requirements for the storage, processing and manufacturing of perchlorate materials

Please see minor editorial modifications to subsection (b)(2).

E. Section 67384.7 Notification best management practice requirements for perchlorate materials

Subsection (a) should be modified to include the following italicized language: “**Any business managing perchlorate materials in the course of its operations in an amount greater than 500 pounds of solids or 55 gallons of liquids *at any one time*, shall within thirty days after initial handling of perchlorate materials, or on or before January 1, 2007 whichever comes later, submit to the Department a notification containing the information specified below.**”

Subsection (b) should be modified to read: **“The weight or volume of the following products shall not be considered when calculating the 500 pound or 55 gallon notification threshold of subsection (a):**

- 1) **Automobiles;**
- 2) **Appliances;**
- 3) **Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach; and**
- 4) ***Any other structure, container or device within which a perchlorate-containing device is used.*”**

F. Section 67384.8 Special best management practices for flares and pyrotechnic perchlorate materials

In addition to minor editorial changes, subsection (c) should be modified by deleting the term **“explosive residuals”** and adding the following italicized language: **“*Within twenty-four (24) hours of a public display of fireworks, the pyrotechnics operator, in addition to complying with Title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect any stars and unignited pyrotechnic devices found during the inspection of the entire firing range. All duds, stars and other unignited pyrotechnic devices shall be managed pursuant to the standards set forth for duds in CCR Title 19, sections 990 and 1003.*”**

G. 67384.10 Discharge/Disposal restrictions for perchlorate materials

Please see minor editorial modifications to subsection (e).

H. 67384.11 Perchlorate restrictions

Please see minor editorial modifications to subsection (a)(3).

Certain portions of subsection (b) should be deleted in favor of restating this section with the following italicized language: **“*On or before January 1, 2008 and every 5 years thereafter, a business that uses dangerous fireworks for public display at the same location in amounts greater than four thousand (4,000) pounds net explosive weight in one year, except as provided in subsection (c) or solid rocket motors, except as required by subdivision (d) shall submit to the Department:*”** Our clients have indicated that this amount will generally accomplish the goal of exempting locations that have up to two public displays of dangerous fireworks a year.

Subsection (b)(1) should be modified to add the following italicized language: **“*If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, and if deemed necessary by the appropriate Regional Water Quality Control Board, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the analytical results; or . . .*”**

Ed Nieto
November 10, 2005
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Subsection (b)(2) should be modified to add the following italicized language: ***“If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, and if deemed necessary by the appropriate Regional Water Quality Control Board, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the analytical results.”***

The following should be added as new subsection (c): **“Dangerous fireworks displays that occur at the same location no more than 2 times per year are exempt from the requirements of subsection (b).”**

The following should be added as new subsection (d): **“The best management practice requirements of subsection (b) above do not apply to businesses managing perchlorate-contaminated media pursuant to subsection (b)(2) of section 67384.2.”**

Prior subsection (c) should hereafter be subsection (e).

Please contact me if you have any questions or concerns about this matter.

Sincerely,

ORIGINAL SIGNED

Michael L.F. Buck

MLB:wla

Enclosure

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Perchlorate BMP Draft Language
October 25, 2005

Chapter 33. Best Management Practices for Perchlorate Materials

Article 1. General

§ 67384.1 Scope

(a) This chapter establishes the best management practices for perchlorate materials as described in section 67384.2.

§ 67384.2 Applicability

(a) Effective July 1, 2006, the best management practice requirements of this chapter shall apply to all persons managing perchlorate materials as described in section 67384.3, except those listed in subsection (b) of this section.

(b) The best management practice requirements of this chapter do not apply to the following perchlorate materials:

- (1) Perchlorate materials managed as a hazardous waste in compliance with all applicable requirements of California hazardous waste law;
- (2) ~~Onsite p~~Perchlorate-contaminated media under the oversight of a regulatory agency with jurisdiction pursuant to applicable environmental statutes that address ~~es~~ response, removal or ~~remedial action~~ remediation of the perchlorate contamination;
- (3) Perchlorate materials containing less than six (6) parts per billion (ppb) of perchlorate;
- (4) Consumer goods manufactured in California prior to, but no later than December 31, 2006, and consumer goods transported into California prior to, but no later than to December 31, 2006;
- (5) Food, crops, ~~and~~ pharmaceuticals; and water approved for use by the Department of Health Services; and
- (6) Combustion residuals of perchlorate materials.

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§ 67384.3 Definitions

The following definitions shall apply to the terms used in this chapter:

"Business" means an employer, self-employed individual, trust, firm, joint stock company, corporation, partnership, or association. For purposes of this chapter, "business" includes a business organized for profit, a nonprofit business and all of the following:

- (a) The federal government, to the extent authorized by federal law.
- (b) Any agency, department, office, board, commission, or bureau of state government, including, but not limited to, the campuses of the California Community Colleges, the California State University, and the University of California.
- (c) Any agency, department, office, board, commission, or bureau of a city, county or district.

"Commercial" means used by a business to generate revenue or promote the sale of goods or services.

For purposes of this chapter, the term "commercial" does not include material or products used under federal, military, or space launch contract requirements.

"Combustion residual" means any paper, ash, wire, or other physical material that remains after the perchlorate-containing material has been substantially consumed.

—For purposes of this chapter, this term does not include the treatment residuals of perchlorate-containing waste ~~or explosive residuals~~.

"Consumer commodity" means a material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use.

"Consumer good" means a product or commodity used by a business that is packaged in a form similar to a consumer commodity.

"Contaminated media" means soil, sediment, surface water, groundwater contaminated with perchlorate.

"Dangerous fireworks", as defined in Health and Safety Code, section 12505, ~~means all of the following:~~

- ~~— (a) Any fireworks which contain any of the following:~~
 - ~~— (1) Arsenic sulfide, arsenates, or arsenites.~~
 - ~~— (2) Boron.~~
 - ~~— (3) Chlorates, except:~~
 - ~~— (A) In colored smoke mixture in which an equal or greater amount of sodium bicarbonate is included.~~

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- ~~—(B) In caps and party poppers.~~
- ~~—(C) In those small items (such as ground spinners) wherein the total powder content does not exceed 4 grams of which not greater than 15 percent (or 600 milligrams) is potassium, sodium, or barium chlorate.~~
- ~~—(4) Gallates or Gallic acid.~~
- ~~—(5) Magnesium (magnesium-aluminum alloys, called magnalium, are permitted).~~
- ~~—(6) Mercury salts.~~
- ~~—(7) Phosphorous (red or white except that red phosphorus is permissible in caps and party poppers).~~
- ~~—(8) Picrates or picric acid.~~
- ~~—(9) Thiocyanates.~~
- ~~—(10) Titanium, except in particle size greater than 100-mesh.~~
- ~~—(11) Zirconium.~~
- ~~—(b) Firecrackers.~~
- ~~—(c) Skyrockets and rockets, including all devices which employ any combustible or explosive material and which rise in the air during discharge.~~
- ~~—(d) Roman candles, including all devices which discharge balls of fire into the air.~~
- ~~—(e) Chasers, including all devices which dart or travel about the surface of the ground during discharge.~~
- ~~—(f) Sparklers more than 10 inches in length or one-fourth of one inch in diameter.~~
- ~~—(g) All fireworks designed and intended by the manufacturer to create the element of surprise upon the user. These items include, but are not limited to, auto-foolers, cigarette loads, exploding golf balls, and trick matches.~~
- ~~—(h) Fireworks known as devil-on-the-walk, or any other firework which explodes through means of friction, unless otherwise classified by the State Fire Marshal pursuant to this part.~~
- ~~—(i) Torpedoes of all kinds which explode on impact.~~
- ~~—(j) Fireworks kits.~~
- ~~—(k) Such other fireworks examined and tested by the State Fire Marshal and determined by him, with the advice of the State Board of Fire Services, to possess characteristics of design or construction which make such fireworks unsafe for use by any person not specially qualified or trained in the use of fireworks.~~

“Department” means the Department of Toxic Substances Control.

~~“Explosive residuals” means perchlorate-containing material after the use of high explosives, pyrotechnics, fireworks, or propellants.~~
~~— For purposes of this chapter, this term does not include combustion residuals.~~

"Fireworks" means any device containing chemical elements and chemical compounds capable of burning independently of the oxygen of the atmosphere

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and producing audible, visual, mechanical, or thermal effects which are useful as pyrotechnic devices or for entertainment.

The term "fireworks" includes, but is not limited to, devices designated by the manufacturer as fireworks.

"Food" means any raw or processed substance, beverage, including water, or ingredient intended to be used as food, drink, confection, or condiment for human or other animal consumption.

"Household" means a private residence. For the purpose of this section, household does not mean a hotel, motel, bunkhouse, ranger station, crew quarters, campground, picnic ground, or day-use recreation facility.

"Household waste" means any materials, including garbage or trash that is generated by residents through the use of a consumer commodity in a household.

"Highway", as defined in California Vehicle Code section 360, means a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. Highway includes streets.

"Managing perchlorate materials" means generation, storage, transportation, manufacture, processing, fabrication, packaging, use, reuse, treatment, transfer, pumping, recovery, recycling, spill response, disposal, and discharge.

"Material Safety Data Sheet" means written or printed material concerning a hazardous chemical which is prepared in accordance with title 29 of the Code of Federal Regulations, section 1910.1200(g)

"Military munitions", as defined in the Code of Federal Regulations, section 260.10, means all ammunition products and components produced or used by or for the U.S. Department of Defense (DOD) or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons

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program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

[“Net explosive weight” means the weight of all pyrotechnic compositions, explosives material and fuse only, as defined in title 27 of the Code of Federal Regulations, section 555.222.](#)

“Non-hazardous waste” means a waste that does not meet the definition of hazardous waste as defined in title 22 of the California Code of Regulations, section 66260.10.

“Packaging” means a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements of this chapter.

“Perchlorate material” as defined in Health and Safety Code 25210.5 means all perchlorate-containing materials including perchloric acid and perchlorate compounds. “Perchlorate material” includes all forms of matter, goods, and products and shall not be limited by other statutory or regulatory definitions of “material”.

"Pyrotechnic operator", as defined in Health and Safety Code, section 12527, means any licensed pyrotechnic operator, who by examination, experience, and training, has demonstrated the required skill and ability in the use and discharge of fireworks as authorized by the license granted.

"Pharmaceutical", as defined in title 21 of the United States Code, section 321(g)(1), means a prescription or over-the-counter human or veterinary drug, including, but not limited to, a drug as defined in Section 109925 or the Federal Food, Drug, and Cosmetic Act, as amended.

"Public display of fireworks" means, as defined in Health and Safety Code, section 12524, an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of fireworks.

“Public safety activity” means any activity intended to protect people or property, including, but not limited to, law enforcement services, fire protection and suppression, emergency medical care, tow operations, emergency services, public utility service and repair, homeland security, and highway maintenance and repair.

“RWQCB” means the California Regional Water Quality Control Board.

“Spill” means unintentional release of perchlorate material.

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For purposes of this chapter, this term does not include [perchlorate-contaminated media excluded under section 67384.2\(b\)\(2\) of this chapter](#), [or perchlorate material resulting from the intended use of a product](#).

“Water-resistant package” means a package that when closed, under conditions incidental to handling, is substantially impervious to rain, spray, and run on.

§ 67384.4 Labeling best management practice requirements for perchlorate materials

(a) Persons who manufacture perchlorate materials, repackage perchlorate materials, distribute perchlorate materials for sale, receive perchlorate materials for resale or use in California, or generate a perchlorate containing waste shall ensure that the perchlorate materials are properly labeled. Labels shall be applied conspicuously on the exterior of all outer shipping packages and on consumer packages. All perchlorate material, except those materials listed in subsection (b) of this section, shall be labeled or marked clearly with the following, "Perchlorate Material – Environmental Hazard – special handling and disposal restrictions may apply, See www.dtsc.ca.gov/perchlorate".

(b) The best management practice requirements of this section do not apply to the following perchlorate materials:

- (1) Household waste;
- (2) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;
- (3) Perchlorate materials used or maintained at a site where all personnel handling the perchlorate material have received instruction on, have access to information in the workplace, and comply with the perchlorate Best Management Practice requirements of this chapter;
- (4) Perchlorate materials which are accompanied with a Material Safety Data Sheet, shipping document, or package insert that includes all the information required in the label pursuant to subsection (a);
- (5) Finished products produced pursuant to federal, military or space launch contract requirements;
- (6) Wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges; and
- (7) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity.

(c) The best management practice requirements of this section do not apply to end users^s of consumer goods.

§ 67384.5 Packaging best management practices requirement for perchlorate materials

(a) Each package used for the containment of perchlorate materials under this section, unless contained as specified in section 67384.6, shall:

- (1) be designed, constructed, maintained, filled, its contents so limited, and closed, so that under conditions normally incident to handling, there will be no identifiable release of perchlorate materials to the environment; and
- (2) be contained in a water-resistant package.

(b) Perchlorate-containing products that are constructed and maintained such that they meet the packaging requirement of subsection (a) need not also comply with the containment requirements specified in section 67384.6. These products may include, but are not limited to the following: batteries, air bag initiators, air bag inflators, bullets, missiles, rockets, and primers.

§ 67384.6 Containment best management practice requirements for the storage, processing and manufacturing of perchlorate materials

(a) Unless listed in subsection (b) of this section, perchlorate materials not packaged or produced as specified in section 67384.5 during storage, processing and manufacturing, shall be contained in weather resistant structures with floors that:

- (1) are adequately water-resistant to prevent seepage into or out of the containment structure;
- (2) do not have drains that release to the environment; and
- (3) are of adequate strength to support the loads.

(b) Containment requirements specified in this section shall not apply to the following:

- (1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach;
- (2) Manufacturing processes, which because of explosion or fire risk, are not conducted within a ~~confined~~weather resistant structure, but meet all other requirements of subsection (a) above, and
- (3) Fertilizers stored for less than thirty (30) days on the site of intended application.

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§ 67384.7 Notification best management practice requirements for perchlorate materials

(a) Any business managing perchlorate materials in the course of its operations in an amount greater than 500 pounds of solids or 55 gallons of liquids at any one time (we defer to other impacted industries on the feasibility of these thresholds), shall within thirty days after initial handling of perchlorate materials, or on or before January 1, 2007 whichever comes later, submit to the Department a notification containing the information specified below.

Business Name	
Location Address	
Mailing Address	
Business NAICS	
Nature of Business	
EPA ID Number	
Contact Name	
Title	
Mailing Address	
E-mail Address	
Phone Number	
List of Perchlorate Materials Handled:	

	Check the appropriate boxes to identify if the quantity is:		
How much perchlorate materials...	None	Less than or equal to 500 pounds of solids or 55 gallons of liquids a year	Greater than or equal to 500 pounds of solids or 55 gallons of liquid a year
does your business manufacture or process?			
does your business use to manufacture or produce a product?			
are used?			
are stored?			
are offered for sale or procurement?			
are generated as waste?			
are treated or recycled onsite?			
are treated or recycled offsite?			
are discharged under a permit or waiver issued by a California RWQCB?			
are sent for offsite disposal?			

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~~The weight or volume of the following products or materials shall not be considered when~~ The weight or volume of the following products shall not be considered when calculating the 500 pound or 55 gallon notification threshold (we defer to other impacted industries on the feasibility of these thresholds) of subsection (a):

- 1) Automobiles;
- 2) Appliances;
- 3) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach; and
- 4) Any other structure, container or device within which a perchlorate-containing device is used.

~~(b) _____;~~

~~(1) Automobiles;~~

~~(2) Appliances; and~~

~~Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach.~~

(c) The requirements of this section do not apply to military munitions managed in accordance with Department of Defense regulations.

(d) Electronic notifications submitted under subsection (a) shall be submitted to www.dtsc.ca.gov.

(e) Written notifications submitted under subsection (a) shall be submitted to the Department by certified mail, return receipt requested to: Department of Toxic Substances Control, Hazardous Waste Management Program, Regulatory and Program Development Division, P.O. Box 806, Sacramento, CA 95812-0806, with "Attention: Perchlorate Materials BMPs" prominently displayed on the front of the envelope.

(f) A business submitting written notification under section (a) may request that confidential business information in the notification and any information that would have site security implications be withheld from public disclosure by the Department.

§ 67384.8 Special best management practices for flares and pyrotechnic perchlorate materials

(a) Road safety flares should be used in a manner that minimizes releases of perchlorate to the environment. As many of the following practices should be implemented to the extent practical without impeding immediate safety considerations:

- (1) Flares should be allowed to burn completely;
- (2) Flares used in an emergency incident should be limited in number and duration necessary to ensure safety; and
- (3) All personnel who routinely use flares in the normal course of employment should receive instruction on the potential environmental hazards associated with the use of perchlorate materials and on the perchlorate Best Management Practice requirements of this chapter.

(b) Marine safety flares shall be used in a manner that minimizes releases of perchlorate to the environment.

(c) Within twenty-four (24) hours of a public display of fireworks, the pyrotechnics operator, in addition to complying with [Title 19](#) of the California Code of Regulations, section 1003, shall, to the extent practical, collect any ~~explosive residuals~~ [stars and unignited pyrotechnic devices](#) found during the inspection of the entire firing range. [All duds, stars and other unignited pyrotechnic devices shall be managed pursuant to the standards set forth for duds in CCR Title 19, sections 990 and 1003.](#)

§ 67384.9 Spill response best management practices for non-hazardous perchlorate materials

- (a) For spills of non-hazardous perchlorate materials to the environment, a handler of perchlorate materials:
- (a) Shall immediately take action to stop and contain all spills of perchlorate material;
 - (b) Shall determine whether any material resulting from the spill is hazardous waste, and if so, shall manage the hazardous waste in compliance with all applicable requirements of this division. The handler is considered the generator of the material resulting from the release, and shall manage it in compliance with chapter 12 of this division;
 - (c) Should collect to the extent practical any material resulting from the spill;
 - (d) Should decontaminate the spill area; and
 - (e) Should prevent or minimize releases to storm sewers.

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§ 67384.10 Discharge/Disposal restrictions for perchlorate materials

(a) When solid non-hazardous perchlorate containing waste is land disposed in California, it shall be disposed of in either:

- (1) a hazardous waste landfill, or
- (2) a composite-lined portion of a non-hazardous waste landfill that meets all requirements applicable to disposal of municipal solid waste in California after October 9, 1993; if:
 - (A) The leachate from the landfill units receiving the perchlorate material is monitored for perchlorate; and
 - (B) The results of the monitoring are submitted to the Regional Water Quality Control Board.

(b) When non-hazardous liquid perchlorate containing wastewater is discharged in California, it shall only be discharged as follows:

- (1) If the facility owner or operator discharges to a publicly owned treatment works (POTW), the owner or operator
 - (A) Shall notify the POTW and/or the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and
 - ~~(A)~~(B) Shall apply for a permit or a change to the existing permit conditions which specify the effluent limitations for perchlorate, if deemed necessary by the POTW agency.
- (2) If the facility owner or operator discharges to surface waters, the owner or operator
 - (A) Shall notify the appropriate Regional Water Quality Control Board of the time, volume, content, characteristics and point of the discharge and any other information required, and
 - (B) Shall apply for a permit or a change to the existing permit conditions which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.
- (3) If the facility owner or operator discharges to land, the owner or operator
 - (A) Shall file a Report of Discharge form to notify the appropriate Regional Water Quality Control Board, and
 - (B) Shall apply for a permit or a change to the existing permit conditions, or waiver which specify perchlorate discharge limitations, if deemed necessary by the appropriate Regional Water Quality Control Board.

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(c) The POTWs receiving wastewater from business that have identified perchlorate-containing discharges, shall monitor the POTW's effluent for perchlorate and shall include the perchlorate as a constituent on their National Pollutant Discharge Elimination System (NPDES) permit.

(d) The requirements of this section do not apply to:

(1) Perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant, or bleach; and

(2) Household non-hazardous perchlorate-containing waste

(e) Non-hazardous perchlorate wastes resulting from the use of safety flares during a public safety activity are exempt from this ~~sub~~section.

§ 67384.11 Perchlorate restrictions

(a) On or before January 1, 2008 and every 5 years thereafter, a business that uses perchlorate-containing fertilizers, road safety flares, commercial explosives, or commercial blasting agents, in an amount greater than 500 pounds in any month, shall:

- (1) review their use of these perchlorate-containing products in order to determine if non-perchlorate-containing alternatives are available and adequate for substitution; and
- (2) review and update pollution prevention measures taken to prevent releases of perchlorate; and
- (3) submit to the Department a certification documenting the completion of both reviews and identifying ~~the any~~ product substitution analysis relied upon by the user in determining that a non-perchlorate-containing alternative is unavailable or inadequate; or
- (4) submit to the Department a certification stating the specific reason that product substitution and pollution prevention was not possible or was unnecessary.

(b) On or before January 1, 2008 and every 5 years thereafter, a business that uses dangerous fireworks for public display at the same location in amounts greater than four thousand (4,000) pounds net explosive weight in one year, except as provided in subsection (c) or solid rocket motors more than two times in a calendar year, or in amounts greater than 500 pounds gross weight in any one month, at the same location, whichever is greater, or solid rocket motors, except as required by subdivision (d) shall submit to the Department:

- (1) analytical results of existing stormwater monitoring mandated by a stormwater permit authorized by the State Water Resource Control Board or an applicable Regional Water Quality Control Board that requires monitoring for perchlorate. If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, and if deemed necessary by the appropriate Regional Water Quality Control Board, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the ~~resulting~~ analytical results; or
- (2) any environmental monitoring results of soil and/or water within the facility or site that includes perchlorate. If the business is subject to an existing stormwater permit that does not require monitoring for perchlorate, and if deemed necessary by the appropriate Regional Water Quality Control Board, the business shall add perchlorate to the list of constituents to be monitored and submit to the Department the ~~resulting~~ analytical results.

(c) Dangerous fireworks displays that occur at the same location no more than 2 times per year are exempt from the requirements of subsection (b).

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~~(e)~~ (d) The best management practice requirements of subsection (b) above do not apply to businesses managing perchlorate-contaminated media pursuant to subsection (b)(2) of section 67384.2.

~~(e)~~ Pursuant to HSC section 25210.7, a business may not manage perchlorate materials unless the management complies with the best management practices specified in the subsections (a) and (b) above.

Paul R. Curry and Associates
Government Relations
1127 11th Street, Suite 226
Sacramento, Ca 95814
(916) 441-0860

Dear Mr. Eduardo Nieto

November 9, 2005

The following comments are related to the draft Perchlorate BMP meeting held on October 25, 2005.

673884.7 Notification best practice requirements for Perchlorate materials

This section sets the amount at 500 pounds used in a month as the trigger for notification with this limit you have exempted all of the public safety and given an exemption to law enforcement who are the largest users of road flares in the state. As stated in their testimony at the hearing California police departments average 35 officers, these small departments (over 300 departments statewide) would never come close to using enough road flares to have to report.

A road flare weighs approximately 8oz thus a department would have to use 1000 flares or 27.7 cases in a month before they would make a report. From a limited study I have found that only the Highway Patrol and possibly Los Angeles County Sheriff's Department would have to make a report. As stated in my last letter:

Law Enforcement exemption from the best practices protocols:

A blanket exemption from the best practices protocol will result in a continuation of the current use of incendiary road flares as has been the practice since the early 1920's. All electronic beacon manufacturers have had a very difficult time getting law enforcement agencies to test the effectiveness of their products in a real life application

With law enforcement being the number one user of incendiary flares containing percholate an exemption would be tantamount to non-regulation of this substance.

67384.8 Special best management practices for flares and pyrotechnic Perchlorate materials.

I would like to suggest that (2) read as follows:

- (2) Flares used in an emergency incident should be limited in number and duration necessary to ensure safety; and used in a manner that minimizes releases of Perchlorate to the environment.

This is the same language used for marine safety flares (b) which recognizes the current need for the use but at the same time raise the users' awareness of the consequence of their use on the environment.

67384.11 Perchlorate restrictions

Once again the level set for this restriction should not include road flares at the 500 pounds per month level because doing so gives a blanket exemption to 90% or more of the law enforcement agencies in the state. A level of 100 pounds per month is more realistic in having the greatest number of users make the report and at the same time encouraging them to find safer and environmentally friendlier devices.

Again I encourage you to include into the BMP's language that will allow verification of the testing result on any alternatives.

Any testing requirement should have as a component a requirement to fully disclose the means of the testing and the all conditions surrounding the test so that the results can be replicated. The regulation should also require that they state the verifiable efforts made to find an alternative.

Conclusion:

The ineffectiveness of these draft BMP's to control the use of road flares is very evident by the absence of representatives from Orion at the latest hearing. At the first hearing they had several experts and company representatives seeking an exemption for road flare use in California. One can only assume that based on the current draft regulations that their needs had been met and they felt no further need to participate in the process. As I have stated previously in areas where there is already significant environmental damage due to percolate contamination, the unfettered continued use of road flares is irresponsible.

Thank you for the opportunity to comment. If I or my client can be of further assistance in providing information or testimony please, do not hesitate to give us a call.

Cordially,

Paul R. Curry
Paul R. Curry and Associates



PERCHLORATE STUDY GROUP

A coalition of aerospace, defense,
chemical and allied industries

November 10, 2005

Department of Toxic Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
P.O. Box 806
Sacramento, CA 95812-0806

Subject: Perchlorate Study Group (PSG) Comments on October 25, 2005 Draft of DTSC's Perchlorate Best Management Practices Regulation

Dear Mr. Nieto:

The PSG appreciates the continued opportunity to work with the Department of Toxic Substances Control (DTSC) on the above-referenced proposed rulemaking. The October 25 draft resolves most of the issues raised by the PSG in our October 6, 2005 letter. We have three outstanding concerns with the current draft, as follows:

1. The reference to "onsite" in 67384.2(b)(2) needlessly limits the scope of the perchlorate-contaminated media exemption without regard to regulatory oversight. For example, soils with residual perchlorate concentrations in excess of 6 ppb may be moved to an offsite location for biological treatment (e.g., blended with compost) under the direction of a regional water board. In this instance, the soil would be subject to BMP requirements the moment it leaves the site of origin, despite the fact that the offsite activity is regulated by "an agency with jurisdiction pursuant to applicable environmental statutes". The PSG requests that this term be removed from the final regulations.
2. Water containing perchlorate concentrations in excess of 6 ppb could be subject to BMP requirements even if it is approved by the Department of Health Services for recycled water applications or for blending by a water purveyor to comply with a drinking water maximum contaminant level. To avoid this interpretation, and to ensure that perchlorate-contaminated water is afforded the same consideration as perchlorate-contaminated media, we recommend the following amendment to section 67384.2(b)(5):

(5) Food, crops, ~~and~~ pharmaceuticals and water approved for use by the Department of Health Services; and
3. Section 67384.11(b) imposes monitoring requirements on users of "rocket motors". It is our understanding that any site exempt from BMP requirements

pursuant to 67384.2 (b)(2) would also be exempt from the requirement for monitoring at 67384.11(b). In the interest of clarifying this interpretation, we recommend adding the following language in a new subsection (c) in section 67384.11:

(c) The best management practice requirements of subsection (b) above do not apply to businesses managing perchlorate-contaminated media pursuant to subsection (b)(2) of section 67384.2.

With these changes, the PSG believes the BMP regulation can be implemented in a manner that facilitates compliance by the aerospace industry. Thank you for considering our recommendations.

Sincerely,

ORIGINAL SIGNED

Michael Girard
Perchlorate Study Group



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November 10, 2005

VIA E-MAIL AND U.S. MAIL

Department of Toxic Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
P. O. Box 806
Sacramento, CA 95812-0806

RE: Proposed Best Management Practices for Perchlorate Materials

Dear Mr. Nieto:

Pioneer Americas LLC (Pioneer), a subsidiary of Pioneer Companies, Inc., is a manufacturer and marketer of chlorine, caustic soda and bleach. As a member of the Chemical Industry, Council of California (CICC) and the Chlorine Institute (CI), we support the comments submitted by these two associations in conjunction with the Chlorine Chemistry Council, the Soap and Detergent Association and the Consumer Specialty Product Association. We concur that no additional best management practices are required for antimicrobial chemistry since these materials are already comprehensively regulated by the State of California and the Environmental Protection Agency (under the Federal Insecticide Fungicide and Rodenticide Act). However, we would like to take this opportunity to point out our key concerns regarding the proposed regulation.

General Comments

The proposed regulation has a very broad impact on a large number of producers and consumers within the State of California. Pioneer Americas believes that a thorough review of the intent of Assembly Bill 826 was not completed before promulgating these Best Management Practices. The Assembly Bill clearly requires that this regulation was to be **consistent with current** regulation, both Federal and State. Within several sections of this proposal, the DTSC has overlooked current regulation within both Federal statute and the Health and Safety Code of California.

Applicability – Per the Perchlorate BMP Draft Language, Sec. 67384.2, the DTSC requires BMPs from all persons who manage “perchlorate materials”. As promulgated, these BMP requirements will apply to a great many consumer products (including some yet to be characterized), since the threshold limit for applicability of this regulation is 6 ppb, per Applicability, Sec. 67384.2.

(b) The best management practice requirements of this chapter do not apply to the following perchlorate materials:

- (1) Perchlorate materials managed as a hazardous waste in compliance with all applicable requirements of California hazardous waste law;*
- (2) Onsite perchlorate-contaminated media under the oversight of a regulatory agency with jurisdiction pursuant to applicable environmental statute that addresses response, removal or remedial action of the perchlorate contamination;*
- (3) **Perchlorate materials containing greater than six (6) parts per billion (ppb) of perchlorate.***

Per AB 826, Article 10.01, Section 25210.6(b)(3) "In adopting regulations pursuant to subdivision (a), the department shall ensure that those regulations are at least as stringent as, and to the extent practical, consistent with the existing requirements of Chapter 6.95 (commencing with Section 25500) and the Uniform Fire Code governing the management of perchlorate materials. We believe the DTSC is inconsistent in the application of this rule since,

Chapter 6.95 applies only to materials containing hazardous substances, where, by Section 35501(p), a hazardous substance "means any substance or chemical product for which one of the following applies:

Manufacturer or producer is required to prepare a MSDS for the substance or product

An MSDS is not required for any material where the constituent of concern is detectable at 6 ppb (below the reporting threshold). Therefore, material containing 6 ppb perchlorate as its only substance would not be deemed a hazardous material per Section 25550.

To remain consistent with current State regulations, DTSC should consider rewording the definition of Perchlorate materials to include only those materials where perchlorate exceeds the MSDS reporting threshold of 0.1%. Using the currently proposed threshold of 6 ppb would increase the universe of regulated entities and put undue burden on local and state agencies as well as individual manufacturers and consumers.

Avoid Duplication of Current Legislation

Chlorine is used to produce water treatment chemicals and is used directly in water disinfection applications. In addition, caustic soda is used in various manufacturing processes and is combined with chlorine to produce bleach, which also is used for water treatment and as a disinfectant. Bleach and direct chlorination are both used to make public drinking water safe to drink and a significant portion of industrial and municipal wastewater is treated with chlorine or chlorine derivatives (bleach) to kill water-borne

pathogens. Therefore, both are highly regulated by both the U.S. EPA and State of California as a pesticide.

SEC. 3. (b) (2) of AB 826, states "The department shall also, before adopting regulations pursuant to subdivision (a), review existing federal, state, and local laws governing the management of perchlorate materials to determine the degree to which uniform and adequate requirements already exist, so as to avoid any unnecessary duplication of, or interference with the application of, those requirements."

Pioneer believes there is sufficient regulation in place governing the use and application of sanitizers and disinfectants within current pesticide regulations. In addition, the SRWQCB has jurisdiction over the water quality for bleach manufacturing sites. Our products are already required to be labeled pursuant to state and Federal pesticide regulations. We believe these regulations provide adequate warning of potential environmental hazards associated with the use of these products and that no additional labeling requirements should be required. Also, we believe that the intent of AB 826 was to protect drinking water, not regulate the materials that help keep the water clean.

Pioneer operates two facilities in California: Tracy and Santa Fe Springs, both of which produce bleach and submit site business plans to the State of California in compliance with existing regulations. The bleach is sold in bulk quantities for use in municipal water treatment and as a disinfectant in food processing. Implementation of this proposal, without completing a thorough analysis of its impact on consumers and producers of bleach, would be detrimental to the economic climate within California.

Accordingly, Pioneer recommends that DTSC take two justifiable actions:

#1-Amend the proposed section 67384.4(b)(2) to read: "Sanitizers, disinfectants, or bleach or perchlorate-containing water resulting solely from treatment with a sanitizer, disinfectant or bleach."

#2-Amend the proposed notification requirements under section 67384.7 **to delete** companies already required to prepare business plans since this would be a redundant reporting obligation.

Thank you for your consideration of these comments.

Very truly yours,

ORIGINAL SIGNED

Sam Chamberlain
Vice President Environmental Health & Safety

**SIERRA CLUB CALIFORNIA
CLEAN WATER ACTION
NATURAL RESOURCES DEFENSE COUNCIL**

November 10, 2005

Mr. Edward Nieto
Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812-0806
enieto@dtsc.ca.gov

Dear Mr. Nieto:

We are writing on behalf of Natural Resources Defense Council, Clean Water Action, and Sierra Club California in support of stringent Best Management Practices (BMPs) for management of perchlorate and perchlorate-containing materials. **In particular, we oppose the requests for exemptions from these BMPs that have been made by the fertilizer industry, pesticide manufacturers, growers, explosive users, the military, law enforcement, and others.**

Ammonium perchlorate (NH_4ClO_4), is used as an oxidizer in rocket propellants. Sodium perchlorate (NaClO_4) is used in explosives, and potassium perchlorate (KClO_4) is used in road flares and air bags. Perchlorate salts are also used in nuclear reactors and electronic tubes, in lubricating oils, leather tanning, fabrics, electroplating, aluminum refining, rubber manufacture, and the production of paints¹. As a consequence of widespread use and water solubility, huge amounts of perchlorate have leached into surface and groundwater used as drinking water sources. Perchlorate is highly mobile in water and can persist for decades under typical ground and surface water conditions². Perchlorate has been detected in over 350 drinking water systems in California, serving more than seven million people. Perchlorate can also be taken up into food crops, resulting in additional pathways for human exposure. Finally, dairy products have also been reported to be contaminated with perchlorate.

Perchlorate inhibits iodide transport into the thyroid by interfering with the sodium-iodide symporter (NIS). As a result, the effect of perchlorate exposure is similar to that of iodine deficiency. Perchlorate induces a dose-dependent reduction in iodide uptake into the thyroid which can result in decreased production of thyroxine (T4). Even mild thyroid hormone suppression during pregnancy has been shown to impair neuropsychological

¹ U.S. EPA Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization Based on Emerging Information (External Review Draft). Office of Research and Development, Washington, D.C. NCEA-1-0503, 1998.

² Ibid

development and to reduce IQ in the child.³ Individuals with mild hypothyroidism, iodine deficiency, or exposures to other goitrogens, are especially susceptible to adverse effects from perchlorate. Many Californians are already exposed to perchlorate in water and food at or near levels determined to be of potential concern by Cal/EPA (ie. above the OEHHA PHG of 6 ppb). Therefore, there are strong public health reasons to control this hazardous pollutant extremely stringently in order to prevent additional human exposures.

AB 826 (Jackson) stated the clear legislative intent of “preventing contamination from management of perchlorate material and from generation, storage, treatment, and disposal of perchlorate or perchlorate-containing waste relative to emissions into the air and subsequent deposition and runoff into surface water or groundwater, and direct or indirect discharge to surface soils, subsurface soils, surface water, or groundwater of the State of California.” [Ch.608, §2(b), September 29, 2003] It is therefore clear that the legislative charge to DTSC in developing BMPs is quite broad, and requires that any exemptions from the most stringent option be clearly justified by showing that such exemptions will not result in environmental contamination or emissions into air, soil, or water.

The legislation goes on to define perchlorate as “all perchlorate-containing compounds” [§25210.5(b)], and perchlorate material as “perchlorate and all perchlorate-containing substances, including, but not limited to, waste perchlorate and perchlorate-containing waste.” [§25210.5(c)] The legislation does not provide a rationale for separating out substances with intentionally added perchlorate from those with unintentional perchlorate. The legislation also does not articulate any intention that there be exemptions for consumer products. In fact, the only rationale envisioned by the California legislature for narrowing the scope of the BMPs is related to the desire to avoid “unnecessary duplication of, or interference with the application of, ...existing requirements.” [§25210.6(b)(2)]

Perchlorate-contaminated fertilizer should certainly not be exempted, especially since fertilizer is intended for application to soil and food crops, and is known to run off into water. The main rationale given for exempting fertilizer is existing regulation by the Department of Food and Agriculture, but CDFA does not enforce BMPs similar to those proposed by DTSC. In fact, CDFA does not have an adequate program for the protection of groundwater from toxins in fertilizer. The other requests for exemption are similarly unjustified under the language of AB 826.

We look forward to continuing to work with you as the process of developing these important BMPs continues over the coming months. Please keep us apprised of further developments.

Sincerely,

³ Glorieux J, Desjardins M, Letarte J, Morissette J, Dussault JH. Useful parameters to predict the eventual mental outcome of hypothyroid children. *Pediatr Res* 24:6-8, 1988.

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Clean Water Action is a national citizens' organization working for clean, safe and affordable water, prevention of health-threatening pollution, creation of environmentally-safe jobs and businesses, and empowerment of people to make democracy work

Natural Resources Defense Council (NRDC) is a national, nonprofit environmental organization with over 1.2 million members and online activists, more than 250,000 of whom reside in California.

Sierra Club California promotes the preservation, restoration, and enjoyment of California's environment by enabling members to speak with one voice in California's State Capitol.



SPECIAL DEVICES, INCORPORATED

November 9, 2005

Ed Nieto
Department of Toxic Substances Control
P. O. Box 806
Sacramento, California 95812-0806

Sent by E-Mail

**RE: Comments on "Perchlorate BMP Draft Language -
October 25, 2005"**

Dear Mr. Nieto:

Special Devices, Incorporated ("SDI") designs and manufactures pyrotechnic devices and ordnance, including air bag initiators which are sold to air bag inflator module manufacturers both within the United States and internationally.

On August 31, 2005, SDI submitted "Perchlorate Workshop Comments" and on October 6, 2005, SDI submitted comments on the September 16, 2005 version of the "Perchlorate BMP Draft Language".

In both submittals, we explained that sealed, perchlorate-containing air bag initiators and similar sealed pyrotechnic devices do not have a potential to release perchlorate to the environment and we recommended that the regulations/BMPs exempt these devices. We also indicated that if the Legislature's goal in passing AB 826, and the goal of DTSC's implementing regulations, is to reduce (or eliminate) the release of perchlorate into the environment, then it would be reasonable to conclude that AB 826 was not intended to apply to perchlorate materials that do not have the potential to release perchlorate into the environment which supports our recommendation to exempt air bag initiators.

With regard to the "Perchlorate BMP Draft Language - October 25, 2005" document on DTSC's website, SDI is providing its comments in Attachment 1 of this submittal. These comments are fairly lengthy and we appreciate DTSC's complete and careful review of them. Similarly, if DTSC is unclear what is meant by a particular comment, please contact us so we can clear up any miscommunication.

As described in our August 31 and October 6, 2005 submittals, and the information provided herein, SDI believes that there is sufficient technical basis to conclude that perchlorate-containing materials inside air bag initiators and similar pyrotechnic devices do not present a risk of a perchlorate release to the environment and should be exempt from all perchlorate material related regulations/BMPs. The regulation of items that have no potential to release perchlorate to the environment is unnecessary and benefits no one – not the public, not the environment, not the manufacturer/user, not the implementing agency, and not the taxpayers

Ed Nieto - DTSC
November 9, 2005 - Page 2

of the State of California.

If you have any questions or require additional information, please call me at (805) 553-1295.

Respectfully submitted,
Special Devices, Incorporated

ORIGINAL SIGNED

William H. Welsh, R.E.A.
Director of Environmental Affairs

ATTACHMENT 1
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
OCTOBER 25, 2005"

Special Devices, Incorporated ("SDI") manufactures air bag initiators, other explosive-containing vehicle occupant safety system components (e.g., seat belt pretensioners), and similar sealed explosive-containing devices. When the explosives, including perchlorate-containing explosives, are in sealed units of the type described, there is no potential for a release of perchlorate to the environment.

In this context, SDI is providing the following comments on the "Perchlorate BMP Draft Language - October 25, 2005" document on DTSC's website.

1.1 Section 67384.2 Applicability

During DTSC's Workshop on September 23, 2005, a DTSC representative indicated that it was not DTSC's intent to regulate "cars" (presumably on the basis that air bag modules typically contain air bag initiators or similar pyrotechnic devices that contain small quantities of perchlorate containing explosives). However, none of the exemptions listed in Section 67384.2(b) appear to exempt air bag initiators or similar pyrotechnic devices and therefore vehicles with these devices do not appear to be exempted from the applicability of the regulations/BMPs.

Based on the technical information provided in our August 31 and October 6, 2005 submittals, SDI suggests that Section 67384.2(b) be revised to include:

- a. A specific exemption for perchlorate-containing explosive devices, including air bag initiators and similar devices, that are sealed and that during normal use do not have the potential to release perchlorate to the environment, or

Note: SDI is not suggesting an exemption for all activities conducted by the air bag initiator or inflator module manufacturing industry or even an exemption for our entire facility - only for the finished products (e.g., sealed air bag initiators) that do not have a potential to release perchlorate to the environment. These air bag initiators are identical to those inside vehicles. That is, our product simply "plugs into" the air bag inflator module which is then mounted inside a vehicle. If the air bag initiator, when part of a vehicle is exempt, then the air bag initiator should also be exempt from the time it becomes a finished product at the location where it is made.

- b. A quantity based threshold exemption such as exempting any perchlorate explosive-containing pyrotechnic device, such as an air bag initiator or similar device, that contains less than 1 gram of "perchlorate" per device and that during normal handling and use does not have the potential to release perchlorate to the environment.

Note: The greatest amount of perchlorate in one of SDI's air bag initiators is less than 1/5 gram and is approximately the same amount of perchlorate as that

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

present in a 50 pound bag of fertilizer containing 6 parts per billion of perchlorate. It is much more likely that the perchlorate in 50 pounds of fertilizer containing 6 parts per billion perchlorate will get into the environment than the comparable amount of perchlorate in an air bag initiator.

SDI believes that inclusion of one or both of the above exemptions is technically sound, based on the information previously provided, and in fact these are more protective of the environment than the exemptions suggested by:

- c. Section 67384.2(b)(3) which exempts materials containing up to 6 ppb of perchlorate regardless of quantity or whether the material has the potential to release perchlorate into environment (e.g., perchlorate containing fertilizer), or

Note: Materials containing less than 6 parts per billion perchlorate can contaminate water to concentrations greater than 6 parts per billion perchlorate (e.g., highly soluble, evaporation/concentration mechanisms, etc.). The real concern should be on the total amount of perchlorate present which needs to consider both quantity and concentration rather than concentration alone. If there is an exempt threshold concentration (i.e., less than 6 parts per billion), then there should also be an exempt threshold amount (e.g., less than 1 gram of perchlorate per article).

- d. Section 67384.2(b)(5) which exempts food, crops and pharmaceuticals without consideration that people routinely dispose of unwanted pharmaceuticals in the sanitary sewer and studies at POTW's have shown an increase in detectable concentrations of certain prescription and non-prescription medicines. Similarly, it is unclear whether this exemption applies only to pharmaceutical products or whether it would also apply to such things as a perchlorate-containing wastewater discharge from a pharmaceutical manufacturing facility.

Note: Food and pharmaceuticals have a potential to result in perchlorate contamination of the environment. If DTSC has discretion to exempt these sources, then DTSC can also exempt sealed air bag initiators.

If the real goal of AB 826, as stated by the Legislature, is to reduce (or eliminate) the release of perchlorate into the environment, then exempting sealed air bag initiators and similar pyrotechnic devices from the regulations/BMPs will not adversely impact the achievement of this goal, but will reduce the regulatory burden on businesses, including a wide range of businesses that have vehicles, that would not otherwise be subject to these regulations/BMPs.

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

1.2 Section 67384.3 Definitions

- a. "Consumer commodity", as written, does not appear to include vehicles. If it is the intent that this includes vehicles, it should be stated.

Note: After the air bag initiator is made, it is packaged per US DOT requirements and sent to an air bag inflator manufacturer where it is "plugged into" an air bag inflator module which is then shipped to a vehicle manufacturer who installs it in a vehicle. All through this process, the initiator does not change. If the air bag initiator is exempt when present in a vehicle, it should be exempt at the point manufacturing is complete.

- b. "Dangerous fireworks" - As described, the intent of the Legislature and AB 826 is for DTSC to promulgate regulations to reduce (or eliminate) the release of "perchlorate" (and only perchlorate) into the environment. However, it appears that the definition of "dangerous fireworks" alone and in combination with the definition of "Fireworks" is overly broad in that it attempts to regulate numerous non-perchlorate compounds (e.g., boron, magnesium, titanium, zirconium, etc.). As written, it appears that many common explosives, such as boron potassium nitrate which contains no perchlorate, could be subject to the perchlorate regulations/BMPs. When using the term "dangerous fireworks" in the actual regulations/BMPs, consider using the phrase "perchlorate-containing dangerous fireworks" so as to not inadvertently regulate non-perchlorate containing materials.
- c. "Fireworks" - As described, the intent of the Legislature and AB 826 is for DTSC to promulgate regulations to reduce (or eliminate) the release of "perchlorate" (and only perchlorate) into the environment. However, it appears that the definition of "Fireworks" is overly broad in that it appears to apply to any material regardless of whether the material contains perchlorate (e.g., boron potassium nitrate). Similarly, it appears to define any pyrotechnic, propellant or explosive device as a "firework" simply because it contains both a fuel and oxidizer. As the definition is written, items such as missiles, rockets, space shuttle engines, ammunition, safety flares, air bag initiators, and the like would all be "fireworks". Consider using a more common, and industry and agency accepted, working definition for "fireworks" such as that in the Uniform Fire Code. Similarly, when using the term "fireworks" in the actual regulations/BMPs, consider using the phrase "perchlorate-containing fireworks" so as to not inadvertently regulate non-perchlorate containing materials.

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

1.3 Section 67384.4 Labeling Best Management Practice Requirements for Perchlorate Materials

a. Comments applicable to Section 67384.4(c) include:

1. As written, this appears to apply to the end user of "consumer goods", but not the end user of "consumer commodities". Is it the intent that consumer commodities used in the household need to be labeled?
2. As stated, it does not appear that vehicles are "consumer commodities" or "consumer goods". This should be clarified so that it is clear whether vehicles need to be labeled.

Note: If vehicles containing perchlorate-containing air bag initiator/inflator modules are exempt from labeling as consumer commodities or consumer goods, then the same exemption should apply back through the supply chain to where the air bag initiators are made because there is no difference in the potential for a release of perchlorate from an air bag initiator at the place of manufacture, during transportation, or in the finished vehicle.

1.4 Section 67384.5 Packaging Best Management Practices Requirement for Perchlorate Materials

The requirements of this section should not apply to "wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges".

1.5 Section 67384.6 Containment Best Management Practice Requirements for the Storage, Processing, and Manufacture of Perchlorate Materials

The requirements of this section should not apply to "wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges".

1.6 Section 67384.7 Notification Best Management Practice Requirements for Perchlorate Materials

a. General and specific comments applicable to Section 67384.7(a) include:

1. Consider clarifying whether the notification thresholds (500 pounds of solids or 55 gallons of liquids) are "at any time" (as in the Hazardous Material Business Plan) or are "total for a calendar year".
2. As written, this appears to be a one time notification rather than an annual or periodic

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

requirement. Are updates required when information on the original notification changes (e.g., contact name, phone number, list of materials, quantities, etc.)?

3. Is there a "reverse" notification that a business would file when it no longer handles perchlorate materials above the threshold?
4. It appears that much of the listed information is duplicative of information already provided to the CUPA, DTSC, or both through other notification programs. Under the "historic" Hazardous Material Business Plan (HMBP, H&SC 25500, et. seq.) requirements, facilities managing a hazardous material, including perchlorates, in quantities exceeding the 500-pound or 55-gallon thresholds at one time or any quantity of hazardous waste, including perchlorate-containing hazardous wastes, were required to provide an HMBP, including chemical inventory and emergency response information, to the CUPA. The HMBP requires periodic updates as material types or quantities change and an annual verification is required.

As part of the HMBP process, businesses provide the CUPA with:

- * Business Name, Location Address, and Mailing Address,
- * Contact Name, Title, Mailing Address, E-Mail Address, and Phone Numbers,
- * Emergency response information, training program information, etc.,
- * Information on material type, formula, amount, status (raw material/waste), and
- * Plot Plans/Maps showing the location where the materials are stored and used.

In addition, the CUPA (and/or DTSC) is provided with information if the:

- * Facility is generating waste (Generator ID Number and annual Verification),
- * Facility is treating/recycling waste onsite (e.g, tiered permit, recycle report), and
- * Facility is treating/recycling waste offsite (e.g., waste manifests, biennial reports).

As described in AB 826, the applicable sections of the H&SC, and documents posted by DTSC, it appears the CUPA will be the lead agency for implementing the perchlorate regulations/BMPs and most of the information on the proposed "Notification" form is already required to be provided to the CUPA. The few items on the "Notification" form that are not already required (e.g., does the business manufacture or process, does the business make a product, etc.) seem unnecessary in that they are not designed to provide, nor will the information collected, help to "reduce (or eliminate) the release of perchlorate into the environment". However, if any of this information is deemed "critical", then the CUPA can send out a follow-up questionnaire to HMBP filers or ask the questions during the periodic (typically annual) HMBP inspection.

On this basis, the necessary information on the Notification form is already being provided to the CUPA and any requirement for businesses to submit a separate notification and/or provide the information to DTSC is duplicative and burdensome.

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

b. Comments specific to Section 67384.7(b):

1. Consider adding an Item (4) as "perchlorate-containing wastewaters that are discharged under the oversight of a regulatory agency with jurisdiction over discharges".
2. The focus of the BMP/regulation should be on the total pounds of "perchlorate" that have the potential to enter the environment and not the gross weight of the perchlorate-containing material without consideration of quantity and concentration.

Typically, other regulatory requirements that businesses are used to complying with consider both quantity and concentration. For example, when completing the Federal Toxic Release Inventory forms ("TRI" or "Form R" per 40 CFR 372), the instructions only require reporting of that fraction of the material that is the listed compound rather than the gross amount. The amount "released" considers both the amount of material and the concentration of the listed compound.

In this case, "perchlorate" is the compound of concern and the focus should be on how many pounds of perchlorate are being managed. For example, the use of gross weights may produce misleading information such as saying there are 10 million pounds of perchlorate materials managed in the state even though 9.9 million pounds of this total could be fertilizer containing only 7 parts per billion perchlorate.

c. Comments specific to Section 67384.7(c):

1. The definition of "military munitions" in Section 67284.3 indicates that some military munitions may be regulated by agencies other than the Department of Defense; however, the wording in Section 67384.7(c) suggests that the requirements of Section 67384.7 do not apply to only those military munitions managed in accordance with Department of Defense regulations. Consider shortening the sentence in Section 67384.7(c) so there is a period after "...military munitions". or modify the wording so that the requirements do not apply to any "military munitions", as that term is defined in Section 67284.3, as long as they are managed according to the regulations of the applicable agency (e.g., DOD, DOE, Coast Guard, etc.).

1.7 Section 67384.8 Special Best Management Practices for Flares and Pyrotechnic Perchlorate Materials

No comments at this time.

ATTACHMENT 1 (CONTINUED)
COMMENTS ON "PERCHLORATE BMP DRAFT LANGUAGE
SEPTEMBER 16, 2005"

1.8 Section 67384.9 Spill Response Best Management Practices for Non-Hazardous Perchlorate Materials

No comments at this time.

1.9 Section 67384.10 Discharge/Disposal Restrictions for Perchlorate Materials

No comments at this time.

1.10 Section 67384.11 Perchlorate Restrictions

No comments at this time.



The Fertilizer Institute

Nourish, Replenish, Grow



November 10, 2005

VIA ELECTRONIC DELIVERY

Mr. Eduardo Nieto
Department of Toxic Substances Control
Hazardous Waste Management Program
Regulatory and Program Development Division
California Environmental Protection Agency
PO Box 806
Sacramento, CA 95812-0806

Dear Mr. Nieto:

The Fertilizer Institute (TFI) and the Western Plant Health Association (WPHA), on behalf of our member companies submit these comments and attached document in response to the request for additional comments at the November 1, 2005 hearing of the California Department of Toxic Substances (DTSC) pertaining to “(Chapter 33. *Management of Perchlorate Materials*, §67384).” This letter and the attached fact sheet extend and support our initial formal comments, submitted October 7, 2005.

Limited Agriculture and Fertilizer Industry Awareness and Involvement in this Rulemaking: DTSC’s decision to include the fertilizer industry in the proposed rule was a surprise not only to the California agricultural industry but the Feed, Fertilizer & Livestock Drugs regulatory group within California Department of Food & Agriculture (CDFA). As CDFA was not involved in the drafting of this rule it seems appropriate for DTSC to cede authority to the fertilizer experts within CDFA. The November 1 hearing was the first opportunity for agriculture, the fertilizer industry or CDFA to testify on its concerns with the provisions of the proposed rule.

Including Fertilizers in this Rule is Unjustified: The attached fact sheet clearly demonstrates why fertilizers containing trace levels of naturally occurring perchlorate do not represent an environmental hazard. Agriculture in general, and organic agriculture in particular, would likely be seriously damaged by the stigma and potential loss of fertilizer options if DTSC includes fertilizers.

Provisions of DTSC’s Rule Exceed the Requirements of AB 826: A careful reading of the legislation reveals that DTSC was tasked with developing new guidelines by first *identifying existing regulatory programs in other agencies that cover the specifics of the rule*. These comprehensive regulations already exist or can easily be put in place within the CDFA regulatory structure. The fertilizer industry is committed to ensure proper best management

practices are used for storage and handling of materials. The statute does not require hazard warning labels for materials with trace levels of naturally occurring perchlorate.

The statute also does not require users to certify their efforts to find and use substitute products, which would lead to the ultimate withdrawal of these important products from the market. Not only will the product substitution provision stigmatize these fertilizers and, it will involve the California grower community, and force product substitution on those unwilling or unable to complete this paperwork.

The Attached Fact Sheet is Essential Reading: We draw your attention to the many valid points and scientific arguments of the attached fact sheet, and urge DTSC to reconsider its position on including fertilizers in this rule.

We appreciate the opportunity to provide these comments. Should you have any questions or comments, please contact Bill Herz, Director of Scientific Programs at (202) 515-2706 or wcherz@tfi.org or Rinee Pinell of WPHA.

Sincerely,

ORIGINAL SIGNED

Ford B. West
President, The Fertilizer Institute

ORIGINAL SIGNED

Rinee Pinell
Western Plant Health Association

Fertilizers Fertilizers Should Be Exempted From DTSC's Perchlorate BMP Rule

Supporting Arguments from the Fertilizer Industry

November 10, 2005

Fertilizers containing perchlorate have been deemed safe by both the Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA). Given the lack of correlation between perchlorate in fertilizer and environmental contamination there is no valid reason for inclusion of fertilizers in DTSC's proposed perchlorate rule. As currently drafted, this rule would require bags of fertilizer to be labeled as an "environmental hazard" requiring special handling and reporting by users. Fertilizer is not an environmental hazard, but an important source of plant nutrients long valued by agriculture and horticulture. Furthermore, there are many policy reasons why DTSC should exempt fertilizers. The following points support our contention:

Policy Arguments

1. **Fertilizer BMPs for Storage and Handling are Already Standard Operating Procedures for the Industry:** DTSC's proposed best management practice (BMP) rule for perchlorate-containing materials is designed to establish BMPs for perchlorate materials where adequate standards do not currently exist to protect the State's groundwater quality. The fertilizer industry and California Department of Food and Agriculture (CDFA), however, already have in place best management practices (BMPs) that are used by fertilizer dealers and distributors throughout the industry for proper fertilizer storage and handling, as well as proper containment and clean up should a spill of fertilizer occur. Fertilizer users, both professional and non-professional, also are commonly given instruction by university extension professionals, government regulators and fertilizer/application equipment vendors on proper fertilizer handling, application and avoidance of environmental hazards. In addition, because fertilizer is a valuable product that can be damaged by improper storage in moist conditions, distributors and end users of fertilizers customarily manage fertilizer in a manner that would avoid spillage or exposure to the elements. It is no doubt a function of these BMPs that, despite all of the fertilizer used in California's huge agricultural industry and the many perchlorate contaminated sites in the state, there has not been a single site where fertilizers utilized for agricultural purposes have been shown to be the cause of contamination.
2. **DTSC Can Exempt Fertilizers from its Rule:** DTSC is authorized to exempt certain perchlorate-containing products, and proposes to exempt, among other products, "foods" and "crops" that may contain trace amounts of perchlorate. In light of these exemptions, it is not clear why DTSC would have reason to include fertilizers in its BMP regulation, especially since there are already effective fertilizer BMPs in place and there is no documented link between fertilizer use and environmental contamination. DTSC recognizes this fact in its current proposal to exempt from the rule's containment requirements those fertilizers stored for less than 30 days on the site of intended application. Although not stated in the current draft, this exemption also indicates an intent to exempt fertilizer from the release and disposal restrictions set forth in the rule, to allow use of fertilizer by growers and others. Since DTSC clearly recognizes that fertilizers are environmentally benign when stored outside of containment structures and applied to crops, there is no rational basis for including them elsewhere in the regulation.

3. **DTSC’s Rule Would Essentially Ban Many Important Sources of Fertilizers:** The BMP statute (Health & Safety Code 25210.6) does not authorize DTSC to ban products. Moreover, DTSC has stated publicly that it does not intend to ban products through this regulation. However, DTSC’s failure to exempt fertilizers from the BMP regulation is tantamount to a ban on any fertilizer of organic (e.g., kelp, fish meal, blood meal, animal manures, compost, green manures) or mineral (e.g., nitrate, potash, sulphate) derivation containing perchlorate in concentrations greater than 6 ppb. The labeling requirements alone would stigmatize these products as “environmental hazards,” making them virtually unmarketable in California or elsewhere. DTSC’s BMP rule would seriously discriminate against organic and mineral fertilizers in favor of chemically-produced fertilizers (e.g., urea), and in doing so remove from the marketplace valuable sources of natural nutrients.
4. **DTSC Failed to Consult with CDFA, Which Regulates Fertilizer Use:** While the statute does not specifically require DTSC to consult with the California Department of Food and Agriculture (CDFA), the language at 25210.6 (b)(1) is clearly intended to ensure that DTSC consult with all state and local agencies that may have jurisdiction over perchlorate-containing materials. DTSC should leave the oversight of agriculture and the fertilizer industry with CDFA.
5. **California’s Agricultural Industry Would be Harmed:** The inclusion of fertilizers in DTSC’s draft regulation would have immediate and long term adverse impacts on California producers of traditional and organic fruit and vegetables, nurseries, greenhouse growers, and both suppliers and users of fertilizer products for golf courses, schools, parks, home lawn and gardens, house plants and other markets. The stigma and potential legal consequences of nuisance lawsuits arising from their use of fertilizers labeled as “Environmental Hazards” could be very damaging. In addition, the notification requirements of the rule would cause any business or individual who might be subject to the rule, to become a potential target for unscrupulous plaintiffs’ attorneys seeking to generate fees. Organic farming would be especially harmed, since there are no acceptable alternatives to the natural fertilizers currently used by these companies, most of which already face regulatory pressures of their own – although natural mineral are known to be a reliable source for the future.
6. **DTSC’s Justification for Regulating Fertilizers is Unfounded:** In support of its rulemaking, the DTSC has listed “Fertilizer Manufacturing” as a potential source of past perchlorate contamination, and has pointed specifically to the Apache Powder Federal Superfund Site located south of Benson, Arizona as an example of a perchlorate release arising from fertilizer manufacturing operations. DTSC’s information regarding this site, however, is incorrect. Based on site information published by EPA Region 9 and conversations with the EPA Site Manager for the Apache Powder site, the site was historically an explosives manufacturing facility, and the release of perchlorate arose in connection with explosives manufacturing operations.¹ Specifically, sodium nitrate containing naturally-occurring concentrations of perchlorate was purchased by the facility for use as a feedstock in the its early production of nitric acid (a component in the production of ammonium nitrate), and its later production of dynamite and blasting agents. As with releases of perchlorate at other industrial manufacturing facilities, the releases at the facility appear to result from poor historical waste disposal practices in connection with the explosives manufacturing process. In any event, the historical use of sodium nitrate in industrial applications should have no bearing on current risk of release posed by the storage

¹ « Status of Apache Cleanup Activities, » USEPA, Region 9, May 1999. Telephone conversation with Andria Benner, EPA Project Manager, USEPA, October 28, 2005.

and use of agricultural fertilizers in California. Not only do these fertilizers contain a lower level of perchlorate than the sodium nitrate historically used in manufacturing operations, but the transportation, storage and use of fertilizer products in agriculture is far different from the use of sodium nitrate (or any substance) as an industrial feedstock.

Technical Arguments

7. **Fertilizer Use is NOT An Environmental Hazard:** The intended goal of DTSC's proposed best management practice (BMP) rule for perchlorate-containing materials is to prevent spills of perchlorate materials that could impact the state's groundwater quality. However, there is no evidence indicating that the use of fertilizer has the potential to release measurable levels of perchlorate to the environment or impact groundwater quality.

The US Environmental Protection Agency (USEPA) recently published, "There is a consensus among researchers from the EPA, the fertilizer industry, and other federal and state laboratories that currently used fertilizers are negligible contributors to environmental perchlorate contamination. Even imported Chilean saltpeter or products derived from it contribute minimally due to their low usage and low perchlorate content. Consequently, the EPA has concluded that further investigation is unwarranted."² USEPA also published, "...our results suggest that there is minimal cause for concern over water pollution from fertilizers currently used in either agricultural states or backyard gardens."

Some fertilizers are known to contain low levels of naturally occurring perchlorate, but for the following reasons their use in agriculture, horticulture or silviculture is not an environmental hazard and no warning labels warranted:

- Bagged fertilizer containing 15% nitrogen (N) would contain 150,000,000 ppb N, which is 15,000,000 times the 10 ppm federal and California enforceable MCL for nitrogen (N) in drinking water. Because it is generally accepted and understood that existing management practices for storage, handling and use of fertilizers are adequate to prevent releases and impacts to groundwater, however, the high N content of fertilizer warrants neither an "Environmental Hazard" warning label nor a limit on the product's N content.
- Under DTSC's proposed rule, if those same bags of fertilizer also contain 6 ppb perchlorate, they would then exceed DTSC's proposed threshold for labeling the bags as an "Environmental Hazard," even though no enforceable perchlorate MCL has been established and a content of 6 ppb would only equal the Public Health Goal (PHG) of 6 ppb perchlorate. This is clearly inconsistent and indicates that the DTSC's intention to strictly regulate the low levels of perchlorate in fertilizer is unwarranted and unreasonable.
- Once those same bags of fertilizer are spread on a farmer's fields and penetrate into the soil, the perchlorate in the bags that would be expected to reach groundwater would be reduced to only about 0.001% of the 6 ppb PHG and DTSC rule's threshold for requiring labeling as an "Environmental Hazard."³

² « Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization, » USEPA, August 2002. NCEA-1-0503, Section 9.1.1, page 9-3.

³ Assuming that 20% would leach into a groundwater aquifer of 6000 m³ Ha⁻¹, the perchlorate would be diluted by a factor of about 6x10⁶ (60 cm of total net freatic water). At an application rate of 400 kg ha⁻¹ yr⁻¹ the N of that fertilizer would be diluted to about 2 mg L⁻¹ (which is about 20% of the N MCL) and the perchlorate would be

- This dilution is so vast that the contribution of fertilizer use to the perchlorate level in groundwater becomes totally insignificant, not only in relation to the PHG and DTSC threshold levels, but even in relation to the present background perchlorate levels in groundwater in many locations or in relation to the contribution from irrigation with Colorado River water.

8. **There would be No Added Health Risk from Exempting Fertilizers:** In paragraph #1 above we demonstrated that exempting fertilizers would not adversely affect the environment. Now we will demonstrate why exempting fertilizers would not result in any additional health risks to Californians.

- California conservatively set its Public Health Goal (PHG) for perchlorate at 6 ppb to protect consumers of contaminated drinking water from the “goitrogenic” effects of perchlorate (inhibition of iodide uptake by the thyroid and potential other effects), based in part on the critical study of M.A.Greer *et al.*, 2002, and the National Academy of Sciences report, 2005.
- A healthy diet of drinking water, vegetables, fruit, whole grains, meat and milk, however, often contains various other “goitrogens” besides perchlorate, including nitrate, thiocyanate, isoflavanoids and others, some at extremely high levels. These “goitrogens” all work the same way in the laboratory by inhibiting iodide uptake⁴, but the supposed adverse public health effects have not been observed as widespread hypothyroidism in our society. This is, no doubt, due to the fact that adequate iodide in our diet (e.g., “iodized salt”) provides society with the protection it needs.
 - For example, a diet including commercial lettuce has been shown to contain up to 2,500,000 ppb nitrate, even if the crop is not fertilized, and up to 250,000 ppb thiocyanate and perhaps on average 6 ppb perchlorate. When the activity of these goitrogens in lettuce is compared, the perchlorate actually constitutes <0.02% of the total iodide uptake inhibition effect. Nitrate and thiocyanate are significant goitrogens present in lettuce, but cause no apparent harm to the public health even at these elevated levels.
 - Thiocyanates are almost as potent as perchlorate, but are generally overlooked by a society concerned with perchlorate. Thiocyanates are naturally present in milk (cows eat mustard and other weeds in pastures) and vegetables from Brassica family (e.g., broccoli, cauliflower, cabbage, Brussels sprouts, radishes). For example, uncooked cauliflower in a restaurant salad bar can have up to 9,500,000 ppb thiocyanate (goitrogenic equivalence to 1,000,000 ppb perchlorate). (Bruce *et al.*, 2003). Yet cauliflower, broccoli and other vegetables with extremely high thiocyanate levels are widely recognized as part of a balanced, healthy diet.
 - The same can be said for nitrate and perchlorate in drinking water. Public water supplies for tens of millions of Californians contains nitrate levels that dwarf the goitrogenic effects of the trace levels of perchlorate present, without producing

diluted to about 0.0001 ug·L⁻¹, which is less than one tenth of a nanogram (about 0.001% of the PHG or DTSC rule threshold for “Environmental Hazards.”)

⁴ The relative potency of nitrate as a goitrogen has been confirmed by M.A. Greer *et al.*, 1966 and other studies as 150 – 200 weight units of nitrate cause the same goitrogen effect as one weight unit of perchlorate. Overall, the ratio of relative potencies of common goitrogens is 1:9:150-200 for perchlorate:thiocyanate:nitrate, respectively.

adverse health effects. California's enforceable MCL for nitrate in drinking water is 44 ppm (44,000 ppb), which has the same biological effect as 250 ppb perchlorate. It is remarkable that the goitrogenic potency of the nitrate MCL is more than 40 times higher than California's 6 ppb perchlorate PHG or DTSC's "hazard" threshold.

Conclusions

- There is no evidence linking agricultural fertilizer use to perchlorate contamination in California. USEPA has publicly stated that fertilizers "are negligible contributors to environmental perchlorate contamination." Low levels of perchlorate in organic or mineral fertilizers are insignificant when considered in light of existing background levels of perchlorate.
- There is no reason to include fertilizer in an "emergency" rule. There are effective programs and regulations in place to safeguard the environment. DTSC should recognize the significant role that existing fertilizer BMPs play and exempt fertilizers from its BMP rule. Other agricultural sectors are being exempted; fertilizers should be included in this exemption.
- Failure to exempt fertilizers from "Environmental Hazard" labeling in its proposed rule would be tantamount to a ban of certain organic and mineral fertilizers, and would seriously harm aspects of agriculture in California.
- The public's concern over perchlorate overlooks the hard fact that Californians are obviously healthy despite a diet of foods and water that includes massive levels of goitrogens other than perchlorate.



November 10, 2005

VIA ELECTRONIC DELIVERY

Mr. Eduardo Nieto
California Environmental Protection Agency
Department of Toxic Substances Control
Hazardous Waste Management Program
P.O. Box 806
Sacramento, CA 95812-0806

RE: Perchlorate Best Management Practices

Dear Mr. Nieto:

SQM North America (“SQM”) and PotashCorp Saskatchewan Inc. (“PCS”) appreciate the opportunity to comment on the California Department of Toxic Substances’ (DTSC) proposed Best Management Practices rulemaking, Chapter 33, *Management of Perchlorate Materials*, §67384. We concur with the written comments and testimony provided on the proposed rules by The Fertilizer Institute, Western Plant Health Association, and various state and national agricultural associations, and join with these organizations in urging DTSC to exempt agricultural products, including fertilizers, from this rulemaking.

As discussed in the comments submitted by these organizations, the use of agricultural fertilizers does not pose a risk to the environment, and has not caused or contributed to the groundwater impacts observed throughout the state. Existing management practices and regulatory programs overseen by agencies such as the California Department of Food and Agriculture are more than adequate to address the use of fertilizers containing perchlorate, and to prevent any future impact on the environment as a result of their use. DTSC has already used its discretion to exempt several categories of perchlorate materials, including food, pharmaceuticals, combustion residuals, certain consumer goods and perchlorate materials containing less than six parts per billion of perchlorate. Given the low risk posed by fertilizer, the sufficiency of existing management practices and the importance of fertilizer products to California’s agricultural community, we encourage DTSC to add fertilizer to the list of exempted perchlorate materials. Should DTSC determine it is unable to provide an exemption for fertilizers, however, we encourage

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DTSC to at least incorporate the textual revisions suggested by these organizations in their written comments.

In addition, we strenuously object to DTSC's proposed Section 67384.11, "Perchlorate Restriction," and the inclusion of fertilizer in this provision. We feel that by requiring users to certify that they have performed a product substitution analysis, DTSC has far exceeded the authority given to it by the California Assembly in its authorizing legislation, AB 826, the Perchlorate Contamination Prevention Act. The requirements set forth in DTSC's draft Section 67384.11 are not "best management practices" designed to either document the use, or prevent releases of, perchlorate materials, as mandated by the statute. By their very nature, "best management practices" presume the continued use of the product, and simply establish parameters within which users are expected to operate to meet the health and safety goals of the statute. DTSC's proposed Section 67384.11 oversteps the authority given to the agency by creating a mandatory obligation on users to periodically review their use of perchlorate-containing fertilizers and either affirmatively demonstrate that "a non-perchlorate-containing alternative is unavailable or inadequate" or provide a certification specifically stating why product substitution wasn't possible or was unnecessary. This creates the presumption that the product is unsafe and should be removed from use if there is any "adequate" alternative available, and is tantamount to an agency-imposed phase-out or ban on these products. In passing AB 826, the California Assembly did not mandate that use of perchlorate materials be reduced or eliminated, and certainly did not suggest that they be banned. Instead, the Assembly simply required that these materials be used in accordance with management practices that meet the statute's goal of preventing releases of perchlorate material that could impact the State's water quality, where adequate management practices do not currently exist. The substitution analysis mandated by Section 67384.11 does not qualify as a "best management practice," and is simply not authorized by the statute.

While we feel strongly that any user of a fertilizer product containing perchlorate would be able to make an adequate demonstration in support of their continued use of such products, the proposed Section 67384.11 creates a presumption against the use of these products, and places an unsupportable burden on users to demonstrate and certify that their use should continue. In addition, this provision requires that users must review, update and provide a certification with respect to pollution prevention measures taken to prevent "releases" of perchlorate. The term "releases" is currently undefined in the rule. Given that the intended use of fertilizer involves spreading it on soil, imposing a requirement that "pollution prevention" measures be in place creates potential confusion for users as to what might constitute a "release" of perchlorate from these products.

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Together, these provisions create an unfair and unauthorized presumption against the use of fertilizers containing perchlorate. This result is neither contemplated nor authorized by AB 826, and DTSC should strike

Section 67384.11 from its proposed rulemaking, or should at least remove fertilizer from the list of products to which this section applies.

We appreciate the opportunity to provide these comments. Should you have any questions, please contact either of the undersigned.

Sincerely,

ORIGINAL SIGNED

Potash Corporation of Saskatchewan Inc.
William J. Doyle
Chief Executive Officer

ORIGINAL SIGNED

SQM North America Corp.
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October 31, 2005

VIA E-MAIL AND U.S. MAIL
enieto@dtsc.ca.gov

Department of Toxics Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
P.O. Box 806
Sacramento, California 95812-0806

Re: Perchlorate Best Management Practices

Dear Mr. Nieto:

We are submitting these comments on the proposed regulations that were issued on October 25, 2005. These comments are submitted on behalf of the Motion Picture Association of America¹ (the "MPAA"), a trade association representing the major producers and distributors of filmed entertainment and are in addition to our comments submitted on August 31, 2005, September 22, 2005, and October 7, 2005. Our comments are directed at the use of perchlorate-containing pyrotechnic special effects devices used by theatrical and television motion picture companies (hereafter "motion picture companies").

As you discussed with Jim Fitzpatrick of the MPAA, the State Fire Marshall's handbook on "Fireworks in California" states that special effects materials "when used in the motion picture/television/theatrical industry by licensed special effects pyrotechnicians and when permitted by the authority having jurisdiction, are to be regulated under this chapter as fireworks, pyrotechnic materials and devices and not as explosives under Health and Safety Code Section 12000." (Emphasis added.) Table 14A

¹ The Motion Picture Association of America, Inc. includes: The Walt Disney Company; Metro-Goldwyn-Mayer Studios Inc.; Universal City Studios LLLP; Paramount Pictures Corporation; Sony Pictures Entertainment, Inc.; Twentieth Century Fox Film Corporation; Warner Bros. Entertainment Inc.

Department of Toxics Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
October 31, 2005
Page 2

in the handbook lists the special effects materials that are not considered explosives. Copies of Table 14A and the Cover Sheet of the report are attached to this letter.

Since it appears from the regulations read as a whole, that the Department is attempting to be consistent with other state regulations, we request clarification that the regulations do not consider pyrotechnic special effects to be explosives. To make this clear, we suggest the deletion of any reference to “explosive residuals”. In section 67384.3, we request that you delete the last sentence of the definition of "combustion residual", which reads "For purposes of this chapter, this term does not include the treatment residuals of perchlorate-containing waste or explosive residuals" and delete the definition of “explosive residuals”. The only place that the term "explosive residuals" is used in the proposed regulations appears to be in section 67384.8 (c). The term “explosive residuals” could be replaced with "collect any material remaining from the fireworks...", which is consistent with the intent of the section.

We thank you for the opportunity to submit these comments.

Very truly yours. 

ORIGINAL SIGNED 


Sharon Rubalcava
WESTON BENSHOOF
ROCHEFORT RUBALCAVA & MacCUIISH LLP

SFR/dtc
Enclosures

cc: Melissa Patack
Jim Fitzpatrick
Sarah Walsh
Sue McDermott Mercer
Terri Thomas

DEPARTMENT OF TOXIC
SUBSTANCES CONTROL

NOV 03 2005

RECEIVED BY
Hazardous Waste Management

Fireworks in California

Laws and Regulations
for Transportation,
Use and Storage

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Hazardous Waste Management

NOV 02 2005

DEPARTMENT OF TOXIC
SUBSTANCES CONTROL



Published by:

California State Fire Marshal
7171 Bowling Drive, Suite 600,
Sacramento, California 95823

TABLE 14A

Special Effects Materials

The following materials, when used in the motion picture/television/theatrical industry by licensed special effects pyrotechnicians and when permitted by the authority having jurisdiction, are to be regulated under this chapter as fireworks, pyrotechnic materials and devices and not as explosives under Health and Safety Code Section 12000.

BULK POWDER COMPOSITIONS AND DEVICES

- Black Powder
- Smokeless Powder
- Smoke Flash Compositions
- Common Photo Flash Compositions
- Illuminating Compositions
- Atomized Flash Compositions
- Two Component Flash Powder
- Flash Paper
- Flash Cotton
- Flash Powder
- Simulated Phosphorus
- Sparking Granules
- Lifters

SMOKE POWDER COMPOSITION AND DEVICES

All Colors

- Smoke Compositions
- Smoke Pellets
- Smoke Granules
- Smoke Candles
- Smoke Cookies
- Smoke Grenade
- Smoke Pots
- Smoke Signals

MATCHES AND FUSES

Quick Match
Black Match
Arcing Match
Silver Match
Cannon Fuse
Safety Fuse
Thermalite
Instantaneous Fuse
Igniter Cord

SQUIBS AND DETONATORS

Bullet Hits
Electric Match
Soft Detonators
Squibs
Detonators
Igniters

FIREWORKS

Common Class C Safe and Sane Fireworks
Common Class C Dangerous Fireworks
Special Class B Fireworks

OTHER MATERIALS

Primacord or Detonating Cord
Exploding Bolts and Cable Cutters
Non Electric Fuse
Shape Charges
Trick Noise Makers

Authority: Health and Safety Code Section 12552
Reference: Health and Safety Code Section 12552



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November 10, 2005

VIA E-MAIL AND U.S. MAIL
enieto@dtsc.ca.gov

Department of Toxics Substances Control
Attn: Ed Nieto – Perchlorate Workshop Comments
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Re: Perchlorate Best Management Practices

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This letter will consolidate our comments on the proposed regulations since this will be the final opportunity for comment.

- **Applicability: 67384.2 (b)(6)** The October 25, 2005 version of the proposed regulations states that "the best management practice requirements of this chapter do not apply to the following...: Combustion residuals of perchlorate materials." The MPAA supports this exemption and requests that it be included in the final version of the regulations.
- **Definitions: 67384.3.** In our last letter, we suggested that to be consistent with other state regulations any reference to "explosive residuals" should be deleted. We requested that you delete the last sentence of the definition of "combustion residual", which reads "For purposes of this chapter, this term does not include

¹ The Motion Picture Association of America, Inc. includes: The Walt Disney Company; Metro-Goldwyn-Mayer Studios Inc.; Universal City Studios LLLP; Paramount Pictures Corporation; Sony Pictures Entertainment, Inc.; Twentieth Century Fox Film Corporation; Warner Bros. Entertainment Inc.

Mr. Ed Nieto
November 10, 2005
Page 2

the treatment residuals of perchlorate-containing waste or explosive residuals". We also requested that you delete the definition of "explosive residuals". We continue to believe these definitions should be deleted.

- **Labeling: 67384.4 (b)(3).** The labeling BMPs do not apply to "Perchlorate materials used or maintained at a site where all personnel handling the perchlorate material have received instruction on, have access to information in the workplace, and comply with the perchlorate Best Management Practice requirements of this chapter". Our special effects technicians are highly trained and we believe this provision is appropriate.
- **Notification: 67384.7(a).** We suggest amending this subsection to clarify the requirement so that it reads "... on or before January 1, 2007 whichever comes later, submit to the Department a one-time notification containing the information specified below."
- **Special Management Practices: 67384.8 (c).** This section provides that "within twenty-four (24) hours of a public display of fireworks, the pyrotechnics operator, in addition to complying with title 19 of the California Code of Regulations, section 1003, shall, to the extent practical, collect any explosive residuals". We request that you delete "any explosive residuals" and substitute "any stars or unignited pyrotechnic devices".

We thank you for your willingness to work with the entertainment industry and for providing us the opportunity to submit these comments.

Verv truly yours. ☺

ORIGINAL SIGNED

Sharon Rubalcava

WESTON BENSHOOF

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Enclosures

cc: Melissa Patack
Jim Fitzpatrick
Sarah Walsh
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Terri Thomas