INITIAL STATEMENT OF REASONS
California Brake Friction Material Regulations
Department of Toxic Substances Control Reference Number: R-2014-01
Office of Administrative Law Notice File Number*: Z-2015-xxxx-xx*

TABLE OF CONTENTS

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DETAILED STATEMENT OF THE SPECIFIC PURPOSE AND RATIONALE

The Motor Vehicle Brake Friction Materials statute (Health and Safety Code sections 25250.50 et seq.) prohibits the sale of any motor vehicle brake friction materials, also known as brake pads, containing specified constituents in amounts that exceed certain concentrations. Furthermore, the statute[1] requires that vehicle brake friction manufacturers reduce the level of copper in brake friction formulations in two phases. By January 1, 2021, the statute prohibits brake friction materials containing more than 5.0% copper by weight, and, commencing on January 1, 2025, prohibits brake friction materials exceeding 0.5% copper by weight from being sold in the State.

The authorizing statute requires manufacturers to certify compliance that brake friction materials meet the restrictions described above. The manufacturers must include a mark proof of certification on all brake friction materials and are required to obtain a copy of the certification from a testing certification agency.

The proposed rulemaking makes specific and clarifies the requirements found in Health and Safety Code sections 25250.60(a), 25250.50(g), and 25250.54. Thus, the proposal sets the standards for self-certification of compliance using a testing certification agency, third-party accredited laboratories, analytical testing methodologies, a mark proof of certification to appear on brake friction materials, and a process to apply for an extension to the 2025 restrictions. The proposed regulations will provide specificity and clarification to the statute, and will assist manufacturers to comply with the law.

Health and Safety Code section 25250.60(a) requires DTSC to adopt certification procedures for brake friction materials. Health and Safety Code section 25250.50(g) requires DTSC to develop and approve certification agency requirements as part of the definition of the testing certification agency. Health and Safety Code section 25250.54 requires DTSC to develop steps to clarify the extension process which shall be facilitated by DTSC.

DTSC proposes to adopt a new chapter 35, California Brake Friction Material Requirements, to division 4.5 of Title 22, California Code of Regulations to satisfy the mandates of Health and Safety Code sections 25250.50 et seq.

[1] Health and Safety Code sections 25250.52 and 25250.53

ECONOMIC IMPACT ANALYSIS (per Gov. Code sec. 11346.3(b))

Motor Vehicle Brake Friction Materials statute (aka California Brake Pad statute) and the proposed regulations will affect different market, labor, and industry sectors in California only indirectly. Manufacturers, who are located outside of California, have already incurred costs to test, obtain certification, and mark the brake pad products they make and sell to original equipment (OE) vehicle manufacturers and the aftermarket channels. Those costs, however, result from earlier enactment and operation of a similar law in the State of Washington.

California has no motor vehicle production[2] and has only a few, small brake friction material manufacturers who serve a niche market segment for racing and custom applications. Those applications are not subject to the proposed DTSC regulations. New motor vehicle manufacturers are located in other U.S. states or foreign nations. Brake friction material manufacturers, like other auto parts suppliers, are generally located near those new vehicle OE manufacturers or in emerging markets for new vehicles, such as China, Brazil, India, etc. Brake pad manufacturers are located near demand for their products (new OE vehicle manufacturers and larger vehicle populations) and near less expensive and more efficient labor and raw material sources. See Table **1**.

Creation or Elimination of Jobs within California

DTSC does not anticipate any changes in employment, wages, or the labor market in California from the proposed regulations. The third-party analytical laboratories and third-party testing certification agency established to fulfill the State of Washington's requirements will meet the provisions in the proposed DTSC regulations. No new jobs for either third-party entity will be created in California.

[2] Although Tesla Motors manufactures electric vehicles in California, the primary braking system uses regenerative braking where the electric motor provides most of the braking power for the vehicle. The friction brakes on a Tesla vehicle are used at low speeds (e.g., a few miles per hour) to bring the vehicle to a complete stop. Since friction brakes are not the primary braking system on Tesla's vehicles, the friction brakes will last longer, and require fewer brake change outs, if any.

Table 1. Vehicle Distribution Geographically

	World	*United States*	*California*
Population	7,257,385,000	316,128,839[3]	38,332,521[4]
Number Vehicles in Use	1,143,231,000[5]	251,497,000[6]	26,496,651[7]
Number of New Vehicles Produced	87,299,993[8]	11,045,902[9]	0
Number of Brake Friction Material Manufacturers	158[10]		
Number of Brake System Manufacturers		230[11]	12[12]

Creation of New Businesses or Elimination of Existing Businesses within California

DTSC estimates that the economic impact on California businesses, employment, and consumers will be negligible because brake friction material manufacturers and new motor vehicle manufacturers have already invested in the third-party testing and third-party testing certification agency in order to comply with the State of Washington's Better Brake Rule and statute.

[3] U.S. Census Bureau, Population Division, Annual Estimate of the Resident Population, April 1, 2010 lo July 1, 2013, Release Date: December 2013.

[4] U.S. Census Bureau, Population Division, Annual Estimate of the Resident Population, April 1, 2010 to July 1, 2013, Release Date: December 2013.

[5] Organisation Internationale des Constructeurs d'Automobiles (OICA, also known as the International Organization of Motor Vehicle Manufacturers), 2013.

[6] Organisation Internationale des Constructeurs d'Automobiles (OICA, also known as the International Organization of Motor Vehicle Manufacturers), 2013.

[7] Air Resources Board, EMFAC 2011, Vehicle Population (aggregated).

[8] Organisation Internationale des Constructeurs d'Automobiles (OICA, also known as the International Organization of Motor Vehicle Manufacturers), 2013.

[9] Organisation Internationale des Constructeurs d'Automobiles (OICA, also known as the International Organization of Motor Vehicle Manufacturers), 2013.

[10] Data derived from AMECA registration tables and from the State of Washington's datasets.

[11] U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, NA/CS 33634, Motor Vehicle Brake System Manufacturing, 2013 First Quarter.

[12] U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, NA/CS 33634, Motor Vehicle Brake System Manufacturing, 2013 First Quarter.

Expansion of Current California Businesses

DTSC estimates that the economic impact on California businesses, employment, and consumers will be negligible because brake friction material manufacturers and new motor vehicle manufacturers have already invested in the third-party testing and third-party testing certification agency in order to comply with the State of Washington's Better Brake Rule and statute.

Anticipated Benefits

DTSC estimates the benefits from the proposed regulations are from incorporating key aspects of the current certification and marking system used by the brake friction materials industry. By incorporating these key aspects into the proposed regulations, compliance costs will be low for the regulated industry, confusion amongst the California consumers and retailers in identifying compliant brake friction materials will be minimized, and the time to achieve compliance with the statute and the proposed regulations will be reduced. Compliance with the statute and proposed regulations will promote the goal to reduce the amount of copper and other toxic substances released from brakes from entering California’s streams, rivers, and marine environment.

REPORTS RELIED ON

DTSC has relied upon the following documents in proposing the regulatory action.

1. Economic and Fiscal Impact Statement (STD. 399) for R-2014-01, California Brake Friction Material Requirements.

2. Assembly Bill No. 501, Chapter 392, An act to amend Section 25250.51 of the Health and Safety Code, to amend Section 42950 of the Public Resources Code, and to amend Sections 12200, 12204, and 34601 of the Vehicle Code, relating to vehicles, chaptered on September 27, 2013.

3. California Senate Bill No. 346 (Kehoe), Chapter 307, Statutes of 2010, an act to add Article 13.5 (commencing with Section 25250.50) to Chapter 6.5 of Division 20, and to repeal Section 25250.65 of, the Health and Safety Code, relating to hazardous materials, chaptered on September 27, 2010.

4. DTSC, Assessment of the Capacity of XRF Analysis as a Tool for the Screening of Brake Pad Friction Materials, October 2011.

5. DTSC, Guidelines for Selecting a Brake Friction Material Testing Certification Agency, January 2013.

6. DTSC, Interpretation Letter to Industry, May 26, 2011.

7. DTSC, Interpretation Letter to Industry, June 24, 2011.

8. DTSC, Interpretation Letter to Industry, September 20, 2011.

9. DTSC, Response to Comments on the Informal Draft Regulations, Division 4.5, California Code of Regulations, Title 22 Chapter 25. Hazardous Materials: Motor Vehicle Brake Friction Materials, October 3, 2014.

10. DTSC, Response to Comments on the Informal Draft Regulations, Division 4.5, California Code of Regulations, Title 22, Chapter 25. Hazardous Materials: Motor Vehicle Brake Friction Materials, June 6, 2015.

11. ISO/IEC Guide 65:1996, General requirement for bodies operating product certification systems, dated 1996, available from the International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland.

12. ISO/IEC 17011:2005, General requirements for accreditation bodies accrediting conformity assessment bodies, dated 2005, available from International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland.

13. ISO/IEC 17025:2005, General requirements for the competence of testing and calibration laboratories, available from International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland.

14. ISO/IEC 17065:2012, Conformity assessment -- Requirements for bodies certifying products, processes and services, dated 2012, available from International Organization for Standardization (ISO), ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland.

15. Memorandum of Understanding on Copper Mitigation in Watersheds and Waterways Between U.S. Environmental Protection Agency and Motor & Equipment Manufacturers Association, Automotive Aftermarket Suppliers Association, Brake Manufacturers Council, and Heavy Duty Manufacturers Association and Auto Care Association and Alliance of Automobile

Manufacturers and Association of Global Automakers, Inc. and Truck and Engine Manufacturers Association and Environmental Council of the States, signed January 21, 2015.

16. NELAC Institute Standard, Environmental Laboratory Sector, Volume 1, Management and Technical Requirements for Laboratories Performing Environmental Analysis, dated 2009, available from The NELAC Institute, P. O. Box 2439, Weatherford, TX 76086.

17. SAE J 866:JUL2012, Friction Coefficient Identification and Environmental Marking System for Brake Linings, available from the Society of Automotive Engineers (SAE) Customer Service, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

18. SAE J 2975:DECEMBER2013, Measurement of Copper and Other Elements in Brake Friction Materials, available from the Society of Automotive Engineers (SAE) Customer Service, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

19. State of California, 2013 Vehicle Code.

20. State of Washington Department of Ecology, Better Brakes Rule Chapter 173-901 WAC.

21. State of Washington Department of Ecology, Brake Friction Material Chapter 70.285 RCW.

22. State of Washington Department of Ecology, Final Cost-Benefit and Least Burdensome Alternative Analyses, Chapter 173-901 WAC, Better Brakes, August 2012, Publication no. 12-04-023.

23. State of Washington Department of Ecology, Guidance for Marking Brake Friction Material, Publication number 13-04-011, October 2013.

24. United Nations Economic Commission for Europe (UNECE), Addendum 89: Regulation No. 90, Uniform provisions concerning the approval of replacement brake lining assemblies, drum brake linings and discs and drums for power-driven vehicles and their trailers, E/ECE/324/Rev.1/Add.89/Rev.3-E/ECE/TRANS/505/Rev.1/Add.89/Rev.3, February 17, 2012.

25. UNECE, Addendum 12-H: Regulation No. 13-H, Uniform provisions concerning the approval of passenger cars with regard to braking,

E/ECE/324/Rev.2/Add.12H/Rev.3-E/ECE/TRANS/505/Rev.2/Add.12H/Rev.3, February 24, 2012.

MANDATED USE OF SPECIFIC TECHNOLOGIES OR EQUIPMENT

The proposed regulations specify the accreditation process, requirements, and testing protocols that analytical laboratories must use on brake friction materials performing SAE Standard J 2975: MAY2015. Furthermore, the proposed regulations specify the use of the environmental markings included in SAE Standard J 866:JUL2012 to be used by manufacturers to designate the content of various regulated constituents and their concentrations for brake friction materials. The criteria for testing, marking, and certifying brake friction materials must be included in formal rulemaking as the criteria will be universally applied to any brake friction material sold in the State of California.

DTSC has worked with the State of Washington Department of Ecology and the Society of Automotive Engineers (SAE) International Brake Materials Environmental Task Force to develop standards that satisfy the requirements in California and the State of Washington regarding the testing, marking and certification of brake friction materials. The effort resulted in the development of SAE Standard J 866:JUL2012 and SAE Standard J 2975:MAY2015. SAE Standard J 866 – Friction Coefficient Identification and Environmental Marking System for Brake Linings (SAE J 866:JUL2012) provides details on the format, layout and definitions for the “unique identification code” and the environmental markings. SAE Standard J 2975, Measurement of Copper and Other Elements in Brake Friction Materials (SAE J 2975:DECEMBER2013) is the testing protocol to be used to prepare and analyze brake friction materials for cadmium and its compounds, chromium(VI) salts, lead and its compounds, mercury and its compounds, copper and its compounds, and asbestiform fibers.

REASONABLE ALTERNATIVES CONSIDERED

DTSC has determined that no reasonable alternative considered by DTSC or that has otherwise been identified and brought to the attention of DTSC would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law. The basis and supporting information for this determination are discussed below.

Chosen Alternative: DTSC has determined that adding Chapter 35, California Brake Friction Material Requirements, to division 4.5 of Title 22, California Code of Regulations is the most effective and least burdensome approach to meeting the mandates specified in Health and Safety Code section 25250.50 et seq.

As required under Health and Safety Code section 25250.60, the proposed regulations were developed in consultation with the brake manufacturing industry to develop a workable program in California. These regulations reflect those efforts and the standards established in coordination with the State of Washington Department of Ecology and the Society of Automotive Engineers (SAE) International Brake Materials Environmental Task Force contained in SAE Standard J 866:JUL2012 and SAE Standard J 2975:MAY2015.

The proposed regulations provide a workable regulatory infrastructure that will establish the criteria for testing, marking, and certifying brake friction materials to be universally applied to any brake friction material sold in the State of California. It provides a level playing field to all new vehicle manufacturers and retail centers offering replacement brake pads for sale. In addition, the proposed regulations address the application process and restrictions that manufacturers must follow for any extensions filed for a temporary exemption to the January 1, 2025 requirements. The proposed regulations are necessary as part of the State's efforts towards limiting and reducing the copper content in brake friction materials which ultimately impact the state's streams, rivers and marine environment.

Least Burdensome: In response to stakeholder input, DTSC has modified the proposed regulations to create a program that is effective and the least burdensome alternative. In 2010 the California Legislature passed a statute restricting brake friction material sold in California to no more than 0.01% by weight of cadmium and its compounds, and 0.1% by weight of chromium (VI)-salts, lead and its compounds, mercury and its compounds, and asbestiform fibers. Additional limits apply to copper and its compounds.

Numerous meetings and workshops open to the public between SAE, the State of Washington, and California led to the development of testing methods that were ultimately adopted by the State of Washington (Better Brakes Rule, Chapter 173.901 WAC) regulations and in a guidance document issued by DTSC. The proposed regulations harmonize with the State of Washington regulations and SAE standards. The proposed regulations:

- Harmonize with key aspects of the State of Washington regulations;
- Use an industry-wide, self-certification process that ensures friction material suppliers manufacture, sell and distribute only products which comply with applicable California and the State of Washington requirements;
- Require that accredited laboratories (ISO 17025 or NELAC certified) are used to ensure compliance with applicable state regulations for copper and other constituents contained in brake friction material products; and
- Require a third-party testing certification agency to confirm regulatory compliance and provide public access to a list of certified companies and products.

Considered and Rejected Alternatives:

Alternative - No Action

DTSC rejected this option because Health and Safety Code section 25250.50 et seq. lacks details on how a regulated entity is to determine the process and criteria to be used for: (1) testing, marking and certifying brake friction materials, (2) verifying certified laboratories, and (3) approving the certification requirements used by the testing certification agencies. Further, Health and Safety Code section 25250.60 requires that DTSC consult with the manufacturing industry in the development of testing and marking criteria and adopt certification procedures.

To do nothing would reject California Legislature's intent and direction to develop an implementation program to reduce the amount of copper released into the State's waters. Copper is toxic to aquatic life and organisms. In recent years, California has experienced a moderate to severe drought potentially exacerbating the impacts of copper in California's waterways. Limits on the copper content of brake materials are one tool that can be used to comply with the federal Clean Water Act (33 U.S.C. Sec 1251 et seq.) mandates. Standards are necessary to help local water control agencies efforts in implementing copper reduction programs.

For the reasons cited above, DTSC rejected this option.

Alternative - Performance Standards

DTSC considered whether performance standards would be a viable alternative in place of the proposed regulations as part of its rulemaking process. Performance standards established through best management practices would not be enforceable thus creating an uneven playing field. DTSC concluded that performance standards would not fulfill

the mandates of Health and Safety Code section 25250.60 which call on DTSC to develop criteria for testing and marking brake friction materials and certification procedures. To establish an effective program, the criteria for testing, marking, and certifying brake friction materials must be adopted in regulations to be universally applied to any brake friction material sold in the State of California.

Alternative - Regulations with a unique certification process and California-specific packaging logo

This alternative assumed DTSC adopted regulations that developed a unique certification process that used a California-specific packaging logo. This process would require:

- The brake friction material manufacturers to submit testing results to a testing certification agency for certification,
- The use of accredited laboratories to test brake friction materials,
- Submittal of testing results and data to DTSC on a quarterly basis,
- Use of a packaging logo owned by DTSC,
- Development of a certification scheme for brake friction materials in accordance with ISO/IEC 17067,
- Direct oversight by DTSC to ensure the accreditation of the testing certification agency and accredited laboratories met the ISO/IEC 17065 standards, and
- Direct oversight of the data sent to the testing certification agency for quality control purposes.

The regulations would also include a section to clarify the extension process that would be similar to the proposed regulations.

DTSC rejected this alternative due to additional cost to DTSC associated with directly overseeing the testing certification agency and accredited laboratories and managing access and use of the packaging logo; additional cost to industry to redesign their packaging to incorporate the DTSC logo; and the duplicative reporting of test results to DTSC and the testing certification agency.

EVIDENCE SUPPORTING A DETERMINATION THAT THE PROPOSAL WILL HAVE NO ADVERSE ECOMONIC IMPACT ON BUSINESS

DTSC estimates that the economic impact on California businesses, employment, and consumers will be negligible because the brake friction material manufacturers and new motor vehicle manufacturers have already invested in the third-party testing and certification. In an effort to avoid different standards and requirements across the country, SAE International, a recognized standard-setting body for the automotive and aerospace industry, developed consensus standards for testing and marking. In 2012, SAE International revised existing standards for marking brake friction materials and created new standards to test for other constituents in brake friction materials. Materials suppliers, manufacturers, assemblers, distributors and retailers are already working together toward the reduction and removal of copper from brake friction materials.

The price for brake pads on both new and in-use vehicles is set through contract agreements with new vehicle manufacturers and by competition in the aftermarket sector. To date, the cost to consumers for new vehicle and/or replacement brake pads that are compliant with the new restrictions has remained unchanged, despite the new reformulations. One reason for this trend is the cost of the raw materials. Copper and the various metals which are restricted in the California and Washington statutes are generally more expensive than other raw materials, such as cashew nut shells and other fibers. Brake friction materials can be derived from many materials including: metals, minerals, carbon, resins, plant and synthetic substances to function as an abrasive, friction modifier, filler and reinforcement, lubricant, and/or binder material.

To date, the projected costs by the State of Washington detailed in its rulemaking package dated August 2012[13] have been generally correct. Further, the State of Washington has found that a significant percentage of the brake pad formulations tested and reported by the third-party are already compliant with the concentrations required in future deadlines. The early adoption of the new requirements, some not due until 2021, is a result of the adoption of the California statute and the State of Washington law and regulations.

The supply chain segments of brake friction materials relevant to California are distributors, retailers and service providers, and end-user customers. Raw material

[13] State of Washington, Final Cost-Benefit and Least Burdensome Alternative Analysis, Chapter 173-901 WAC Better Brakes, Publication No, 12-04-023- August 2012.

suppliers, brake friction material manufacturers, and vehicle manufacturers subject to the law and proposed regulations are not located in California.

i. Potential Impacts on Brake Pad Retailers and Service Providers

The Department of Consumer Affairs, Bureau of Automotive Repair reports 1,448 service and repair stations (providers) are licensed for brake repair work in California as of 2014. These businesses provide “Do It For Me” (DIFM) aftermarket repair and replacement for worn or damaged brake pads. DTSC anticipates minor additional time to view the package labeling, but no additional cost to the consumer because "brake jobs" are customarily a flat fee which includes labor and brake pad materials. New OE vehicle sellers typically now include brake pad replacement in ongoing service contracts sold along with the new vehicle. These also are a pre-set cost, and paid under the service contract.

The Board of Equalization reports 20,916 permits have been issued to entities selling auto parts, accessories, and tires. This universe includes the subset of retailers selling aftermarket brake pads to the "Do It Yourself” (DIY) customer. As above, DTSC does not anticipate any price changes (increase or decrease) for the aftermarket brake pads sold at retail.

ii. Potential Impacts on Brake Pad Users and Customers

California has 26.5 million vehicles in use, according the ARB's 2011 EMFAC model. About 15% of these (roughly 3,9750,000 vehicles) may have the brake pads replaced each year, based on the Brake Manufacturers Council statistics. As above, no changes in the aftermarket brake pad pricing are expected. DTSC does not anticipate any cost increases or decreases to these consumers resulting from the proposed regulations.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

The proposed regulations are not based on, identical to, or in conflict with any federal or California state regulations. These regulations do not supersede the performance and safety requirements set up in the laws and regulations overseen by the National Highway Transportation Safety Administration (NHTSA), the U.S. Environmental Protection Agency (U.S. EPA), the federal Occupational Safety and Health Administration (OSHA), the California Department of Industrial Relations (CDIR), the

California Highway Patrol (CHP), the California Consumer Product Safety Council (CPSC), and the California Department of Motor Vehicles (CDMV).

An automated search was conducted via Westlaw that yielded no conflicting state regulations using the following keywords: “brakes,” “brake pads,” “braking systems,” “copper,” “cadmium and brakes,” “lead and brakes,” “mercury and brakes,” “hexavalent chromium and brakes,” “asbestiform fibers and brakes,” and “asbestos and brakes.” An automated search was conducted via eCFR that yielded no conflicting federal regulations using the following keywords: “copper and brake and pads,” “lead and brake and pads,” “mercury and brake and pads,” “hexavalent chromium and brake and pads,” “asbestiform fibers and brake and pads,” “asbestos and brake and pads,” “brake and pads,” “braking systems,” and “vehicle and brakes and chemical content.”

DTSC reviewed federal and state regulations identified in the Westlaw and eCFR automated searches to determine if potential issues might conflict with the regulations proposed by DTSC. The regulations were checked to determine if there was language that restricted the use of the following compounds in brakes: asbestiform fibers; cadmium and its compounds; chromium-(VI) salts; copper and its compounds; lead and its compounds; and mercury and its compounds.

Several federal regulations were found that specified the safety and performance standards for brakes and braking systems used in various types of transportation systems and industrial systems. The regulations concerning braking systems and brakes used on motor vehicles are overseen by the NHTSA and OSHA. DTSC reviewed the following regulations overseen by NHTSA as part of the federal motor vehicle safety standards (FMVSS) under 49 Code of Federal Regulations (CFR) section 57: hydraulic and electric brake systems (49 CFR 571.105-FMVSS 105), air brake systems (49 CFR 571.121-FMVSS 121), brake systems on light vehicles (49 CFR 571.135-FMVSS 135) and brake systems on motorcycles (49 CFR 571.122-FMVSS 122 and 49 CFR 122a-FMVSS 122a). DTSC reviewed the following regulations overseen by OSHA under the federal Labor Code: the occupational exposures to asbestos (29 CFR 1910.1001), specific compliance methods for brake and clutch repair (29 CFR section 1910.1001(F)(3)), and sampling and testing methods for asbestos occupational exposure (29 CFR section 1915.1001 Appendix B). After reviewing these standards, DTSC did not find language in these standards that conflicted with the restrictions in the proposed regulations by DTSC. A list of the regulations identified using the eCFR search engine for the keywords above is available in Appendix A1.

Under the Clean Air Act, the U.S. EPA promulgated a regulation as part of the National Emission Standards for Hazardous Air Pollutants for new and existing friction materials

manufacturing facilities under 40 CFR Part 63, Subpart QQQQQ. These regulations are specifically for facilities that perform solvent mixing which have been identified as major sources of hazardous air pollutants including n-hexane, toluene, and trichloroethylene. After reviewing these regulations, DTSC did not find language in these standards that conflicted with the restrictions proposed in the regulations by DTSC.

Several state regulations were found that specified safety and performance standards for brakes and braking systems used in various types of transportation systems and industrial systems. The regulations concerning braking systems and brakes used on motor vehicles are overseen by the California Highway Patrol, Department of Industrial Relations, and Department of Transportation. DTSC also reviewed regulations regarding the requirements for brake adjusters and brake stations overseen by the Bureau of Automotive Repair. DTSC reviewed these regulations for potential issues that might conflict with the regulations proposed by DTSC. A list of the regulations identified using the Westlaw search engine is available in Appendix A2. After reviewing these regulations, DTSC did not find language in these standards that conflicted with the restrictions in the proposed regulations by DTSC.

Since late 2010, DTSC and the State of Washington have worked together with stakeholders to develop harmonized requirements that comply with the two statutes and requirements pertaining to the self-certification process. These efforts led to a Memorandum of Understanding (MOU) between U.S. EPA, DTSC, California State Water Resources Control Board, State of Washington, industry stakeholders, and the Environmental Council of the States (ECOS), a national, non-profit association of state and territorial environmental agency leaders whose mission is to improve the capacity of state environmental agencies to protect and improve human health and the environment in the U.S. The MOU is intended to be a template for the other 48 states to identify brakes that comply with the lower copper restrictions listed in the California and the State of Washington statutes.

DTSC has also reviewed the United Nations Economic Commission for Europe (UNECE) Regulation 90 to evaluate if the testing and marking specified in their standard was equivalent to the one proposed by California. UNECE Regulation 90 focuses on performance standards for replacement brake linings. The regulation requires the testing for five constituents; carbon, silicon, manganese, chromium, and copper. Of these five constituents, only copper and chromium are mentioned in the California statute. The allowable concentration varies depending on whether the brake lining is in one of four material subgroups. Regulation 90 does list an allowable range for copper between 0.30 - 0.70% and for chromium between 0.30 - 0.70%. No test method is listed in Regulation 90 for the five (5) constituents. Although UNECE Regulation 90 restricts

the amount of copper and chromium in brake friction materials, DTSC does not think the proposed regulations are duplicative since the proposed regulations require testing for four (4) other constituents and specifies the testing protocol.

DETAILED STATEMENT OF REASONS: SUMMARY AND RATIONALE

Health and Safety Code section 25250.60 requires DTSC to develop adopt and approve certification criteria and procedures to test brake friction materials. The proposed regulations are necessary to satisfy those mandates. More specifically, chapter 35 and all of its sections (sections 66387.1, 66387.2, 66387.3, 66387.4, 66387.5, 66387.6, 66387.7, 66387.8, and 66387.9) are necessary to fulfill those mandates and make more specific the provision of Health and Safety Code sections 25250.50 through 25250.65. Specific descriptions of, and statements of necessity for each provision of the proposed regulations is included in subsequent paragraphs as follows: section 66387.1 definition; 66387.2 references; section 66387.3 for self-certification of compliance; section 66387.4 for approving the certification requirements for a testing certification agency; 66387.5 for approving accredited laboratories; 66387.6 for adopting testing methodology; 66387.7 for adopting the marked proof for certification; 66387.8 for adopting the environmental compliance marking; and 66387.9 for approving extensions to the requirement in Health and Safety Code section 25250.54.

66387.1 Definitions

This section is necessary to provide predictability, avoid confusion and disputes regarding various terms used in chapter 35 to assure regulatory consistency and clarity. Terms that have a specific meaning in the context of the regulations that differ from the generally understood meaning (e.g., one that is more specific) are included. This section also clarifies that the definitions of terms used in these regulations that are found in chapter 6.5 of the Health and Safety Code also apply here.

DTSC realizes that regulatory language should not duplicate statutory language, however many stakeholders requested relevant and regularly used definitions included in Health and Safety Code sections 25250 et al., be included in the definition section of the proposed regulations to provide ease of implementation by the regulated public. The full-text definitions for following terms added from the statute are: “manufacturer” in HSC 25250.50.50(e), “motor vehicle” and “vehicle” in HSC section 25250.50(f), and “testing certification agency” in HSC section 25250.50(g).

Section 66387.1(a) defines “accredited laboratory” to mean the standards that laboratories must meet to be classified as an accredited laboratory in the State of

California for the purposes of testing brake pad materials. Laboratories must meet the requirements found in section 66387.5 to be classified as an accredited laboratory. A laboratory can be accredited to provide a service on a variety of different standards with national or international scopes; as such, it is necessary to define the type of laboratory qualified to analyze brake friction materials.

Section 66387.1(b) defines “alternative laboratory accreditation” to mean a standard for laboratories that do not meet the requirements of ISO/IEC 17025:2005 or a laboratory accreditation program that is not recognized by the National Environmental Laboratory Accreditations, but has been demonstrated to be equivalent or better in accordance with section 66387.5(b) through and (d) and approved by DTSC. This definition is necessary because it provides alternative accreditation methods which allows more access to national or international standards, thereby providing greater flexibility for the brake friction materials manufacturers to comply.

Section 66387.1(c) defines “alternative testing method” to mean a chemical analysis testing method or chemical analysis sample processing method that is not cited in testing protocol SAE J 2975:DECEMBER2013 , but has been demonstrated to be equivalent or better in accordance with 66387.6 (j) through (l) and approved by DTSC. This definition is necessary to provide clarity because alternative methods provide more access to new measurement techniques and greater flexibility in the selection of analytical methods, thereby reducing compliance costs while protecting public health.

Section 66387.1(d) defines “brake friction material” to mean the part of the motor vehicle brake designed to retard or stop the movement of the motor vehicle through friction against a rotor made of a more durable material. This provision is necessary to clarify and make specific that the regulations apply to the brake friction material bound to the surface of a brake pad that faces the disc brake rotor.

Section 66387.1(e) defines “certification mark” to mean the packaging mark used to identify brake pads containing brake friction material that is compliant with Health and Safety Code sections 25250.51, 25250.52, and 25250.53. The certification mark will alert consumers when a brake pad meets the permissible levels scheduled for January 1, 2014, 2021, or 2025. For example, as of January 1, 2014 brake pads exceeding 0.01% by weight of cadmium and its compounds, and 0.1% by weight of chromium and its compounds, lead and its compounds, mercury and its compounds, and asbestiform fibers may not be sold in California. On and after January 1, 2021 brake pads exceeding 5.0% by weight of copper and its compounds may not be sold in California. And by January 1, 2025 brake pads exceeding 0.5% by weight of copper and its compounds may not be sold in California. Various terms are associated with the marked proof of

certification for brake pad products. This term is necessary to distinguish the marking intended only for the packaging.

Section 66387.1(f) defines “Department” to mean the Department of Toxic Substances Control. This definition is necessary to make specific the regulatory agency tasked with ongoing oversight and enforcement.

Section 66387.1(g) defines “environmental compliance marking” to mean the three character alphanumeric identification code specified in section 66387.8. This term is necessary to provide clarity on the significance of each of the demarcations found on brake friction materials. The environmental compliance marking with an “A,” “B,” or “N” followed by two digits is intended to provide persons with an easy means to locate demarcation signifying environmental compliance. The letter indicates the content of various regulated constituents and their concentrations in a brake friction formulation and the numeric digits indicate the year the brake friction material was manufactured. This definition is necessary to clarify that the environmental compliance marking is the last three characters in the edge code string with no additional alpha or numeric characters following it.

Section 66387.1(h) defines “manufacturer” to mean the same as defined in Health and Safety Code section 25250.50(e). As defined, manufacturer means the following:

(1) A manufacturer or assembler of a motor vehicle or motor vehicle equipment;

(2) An importer of motor vehicles or motor vehicle equipment for resale; or

(3) A vehicle brake friction materials manufacturer.

Given that any of the persons included in sections 66387.1(h)(1) through (3) can be responsible for the material specifications in the brake friction materials, it is important that each of these entities be included in the definition. In addition, these entities are also eligible to apply for and obtain an extension to the applicable 2025 deadline (Health and Safety Code section 25250.54). This definition is necessary to make specific to which persons specific duties apply and/or are responsible for compliance.

Section 66387.1(i) defines “mark proof of certification” to mean 1) the unique identification code plus the environmental compliance marking on the brake friction material, or 2) the certification mark that is required on the packaging for brake friction material products. This definition is necessary to make specific the type of demarcation that is necessary on packing, and on the brake pads to achieve compliance.

Section 66387.1(j) defines “motor vehicle” and “vehicle” to mean the same as is defined in Health and Safety Code section 25250.50(f). A motor vehicle or vehicle as defined means a device by which a person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used upon stationary rails or tracks.

Further, California Vehicle Code section 670 defines "vehicle" as “a device by which any person or property ***may be propelled, moved, or drawn upon a highway***, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.” (California Vehicle Code section 670 emphasis added.) The types of vehicles that may or may not be drawn upon a highway are governed by the California Vehicle Code. Therefore, the vehicle classes defined under this statute are based on the definitions stated in the California Vehicle Code. Vehicle classes not subject to this statute included motorcycles as defined under Vehicle Code section 400, and certain off-highway vehicles that do not meet conditions specified under Vehicle Code sections 35100-35111, 35250, 35400, 35410-35411, and 35550-35558.

As such, “motor vehicle” as specified in statute includes not only passenger vehicles but all “vehicles” under the California Vehicle Code section 670. That is, the requirements and deadlines also apply to trailers, tractor trailers and boat trailers, and some “off highway” vehicles. This definition is necessary to make specific that **all** brake friction materials intended for motorized vehicles in California are subject to the requirements in these regulations.

Section 66387.1(k) defines “regulated constituents” to mean asbestiform fibers, cadmium and its compounds, chromium (VI)-salts, lead and its compounds, and mercury and its compounds. Health and Safety Code section 25250.51(a)(1) through (5) specifies 0.1% by weight for all of the above referenced constituents except for cadmium and its compounds which is set at 0.01% by weight. By grouping these constituents as “regulated constituents” redundancy and repetition in the regulations can be avoided, adding clarity and readability. As such, this definition is necessary to improve the readability of the regulations.

Section 66387.1(l) defines “rotor” to mean the rotating portion of a motor vehicle brake system. This term is necessary to make specific the vehicle part where the brake friction materials can be located in either new vehicles or installed in old vehicles as replacement brake friction materials.

Section 66387.1(m) defines “secretary” to mean the California Secretary for Environmental Protection. Health and Safety Code section 25250.50 requires that the

Secretary for Environmental Protection issue the decisions either granting or denying extensions to the deadlines specified. This provision is necessary to make specific that the Secretary of the California Environmental Protection Agency will be making that decision.

Section 66387.1(n) defines “testing certification agency” or “registrar” to mean the same as defined in Health and Safety Code section 25250.50(g). As defined a “testing certification agency” or “registrar” is a third party agency that is utilized by a vehicle brake friction materials manufacturer and that has an accredited laboratory program that provides testing in accordance with the certification agency requirements that are approved by the department. In the United States, many certification bodies that do not operate laboratories are recognized through the International Accreditation Forum. These certification bodies contract with testing laboratories accredited by a recognized International Laboratory Accreditation Council (ILAC) accreditation body. The industry term “registrar” is used in the United States for certification bodies performing registration or certification of manufacturers, suppliers or other producers which are often not laboratories. A certification body may or may not be associated with a laboratory.

The responsibilities outlined in the proposed regulations for the “testing certification agency” are more like the tasks associated with a “registrar” than an analytical laboratory. DTSC does not anticipate a “testing certification agency” to have an in-house analytical laboratory. A “testing certification agency” that contracts with analytical laboratories accredited by a recognized ILAC accreditation body are acceptable. However to be consistent with the California statute, the Department must use the term “testing certification agency” in the regulations. This term is necessary to clarify that “testing certification agency” and “registrar” are synonymous.

Section 66387.1(o) defines “unique identification code” to mean the combination of a “company assigned ID” and “formulation identification” found in SAE J 866 standard. SAE J 866 marking standard (also known as the edge code) requires specific information to be placed on brake pads, in a specific order. The unique identification code is a combination of the first two required elements that identify the brake friction manufacturer and the brake friction formulation. However, not all the information required in SAE J 866 is required by these regulations. This definition is necessary to make specific which alphanumeric string is considered the exclusive naming convention that will identify a brake friction material manufacturer and their formulation.

66387.2 References

References necessary for these regulations are incorporated in this section instead of under chapter 10 of title 22 (California Code of Regulations, Title 22, section 66260.11) because they are related to products and not hazardous waste management systems.

The references included are standards that apply to accreditation bodies, product certification systems, testing competence, and laboratory performance that are universally accepted. Given that brake friction manufacturers are not all located in California, it is important to use universally acceptable methods to minimize oversight costs for testing and certification. These regulations reference standards will ensure the highest level of performance while minimizing the cost to California.

Under the statute, the Department is tasked with "the development of all criteria for testing and marking brake friction materials"[14] and "adopting certification procedures for brake friction materials."[15] To achieve these tasks, the Department looked at product certification requirements currently used in the marketplace. The process developed for certifying brake friction materials meets criteria stipulated in the statute and is based on the following documents:

- ISO/IEC Guide 65:1996 or ISO/IEC 17065 - Conformity assessment – Requirement for bodies certifying products, processes. ISO/IEC standards are issued by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).
- ISO/IEC 17065 (or ISO/IEC Guide 65:1996) that encompasses the area that is required for certification.
- ISO/IEC 17011 - General requirements for accreditation bodies accrediting conformity assessment bodies and signatory to the respective arrangement.
- ISO/IEC 17025 that encompasses the required approved testing methodologies.

Section 66387.2(a)(1) - ILAC-P5:10, "International Laboratory Accreditation Cooperation (ILAC) Multilateral Recognition Arrangement," dated 2013. Organizations that wish to access standards specifically related to the accreditation body for the "testing certification agency" should refer to the ILAC-P5:10. The ILAC Arrangement is an international recognition arrangement for accreditation bodies. Participating accreditation bodies agree to promote acceptance of the equivalence of calibration, test

[14] Health and Safety Code section 25250.60(a)
[15] Health and Safety Code section 25250.60(a)

and inspection reports produced by accredited facilities. According to ILAC, “This Arrangement is a major co-operative effort to enhance the objective of free trade throughout the world. The criteria for the operation of the accreditation bodies are currently specified in ISO/IEC 17011, and supplemented by ILAC mandatory and IAF/ILAC A series documents where necessary.”[16]

This reference is necessary because the ILAC Arrangement guarantees that test results are mutually acceptable between different governmental and regulatory organizations on regional, national, and international levels and that these test results meet the same minimum standards for quality regardless of the lab's accreditation body. Each member of the agreement recognizes other members' accredited laboratory as if they themselves had performed the calibration because the Arrangement ensures that each laboratory is actually complying with the same minimum standards. The accreditation body that certifies ISO/IEC 17025 for a testing certification agency must be a signatory to the ILAC Arrangement to ensure peer review.

Section 66387.2(a)(2) - ISO/IEC Guide 65,[17] “General requirement for bodies operating product certification systems,” dated 1996. This reference is necessary for organizations that wish to be a “testing certification agency” because it outlines the general principles that should be reflected in the certification requirements used by the testing certification agency and in the documents provided to the Department when it evaluates their certification requirements. This is one of two standards that may be used for testing certification agencies. ISO/IEC Guide 65 has been superseded by ISO/IEC 17065, and there may still be organizations that are operating under these requirements.

Section 66387.2(a)(3) - ISO/IEC 17011:2005, “General requirements for accreditation bodies accrediting conformity assessment bodies,” dated 2005. This reference is necessary to specify the general requirements the testing certification agency must comply with to be accredited by an accreditation body. The general requirements establish the minimum criteria that must be met. By including the criteria, a higher number of entities may elect to be accredited. In turn, this may afford manufacturers a larger pool of testing certification agencies to select from, regardless of their location.

In order for accreditation bodies to recognize other accreditations, the International Laboratory Accreditation Cooperation (ILAC) developed a standard for accreditation

[16] ILAC Mutual Recognition Arrangement (Arrangement) ILAC-P5 https://www.ilac.org/documents/ILAC_P5_10/2013 (last accessed on July 2015)
[17] ISO/IEC 65 is not valid after 9/15/2015 as per the IAF Resolution 2012-09 http://slab.lk/support/news/policy_on_transition_to_17065_2012.pdf

bodies: ISO/IEC 17011. Accreditation bodies having a Mutual Recognition Arrangement (or MRA) with ILAC agree to maintain conformity with the current version of 17011 and to regularly submit themselves and their own quality management systems to peer review. By complying with ISO/IEC 17011, accreditation bodies demonstrate that they are capable of accrediting testing and/or calibration laboratories to the ISO/IEC 17025 standard.

Accreditation reduces risk for business and its customers by assuring them that accredited bodies are competent to carry out the work they undertake. Accreditation bodies are required to operate at the highest standard and to require the bodies they accredit to comply with appropriate international standards. Accreditation is relied upon in international trade. It allows a company with a conformity assessment certificate in one part of the world to have that certificate recognized everywhere else in the world.

Section 66387.2(a)(4) - ISO/IEC 17025:2005, “General requirements for the competence of testing and calibration laboratories,” dated 2005. This reference is necessary because it provides the minimum requirements a laboratory must meet to be considered an accredited laboratory. The criteria for the operation of accredited organizations are currently specified in ISO/IEC 17025 or other standards for conformity assessment bodies that ILAC deems to be suitable for accreditation. ISO/IEC 17025 is the single most important standard for calibration and testing laboratories around the world. Laboratories that are accredited to this international standard have demonstrated that they are technically competent and able to produce precise and accurate test and/or calibration data. As part of accreditation, a laboratory's quality management system is thoroughly evaluated on a regular basis to ensure continued technical competence and compliance with ISO/IEC 17025.

ISO/IEC 17025 includes the general requirements for the competence to carry out tests and/or calibrations, including sampling. It is applicable to all laboratories regardless of the number of personnel or the extent of the scope of testing and/or calibration activities. Laboratory customers, regulatory authorities, and accreditation bodies may also use it in confirming or recognizing the competence of laboratories.

Section 66387.2(a)(5) - ISO/IEC 17065:2012, “Conformity assessment − Requirements for bodies certifying products, processes and services,” dated 2012. This reference is necessary for organizations that wish to be a “testing certification agency” because it outlines the general principles that should be reflected in the certification requirements used by the testing certification agency and in the documents provided to the Department when it evaluates their certification requirements. Organizations that wish to access the standards associated with accreditation of a “testing certification agency”

should refer to the ISO/IEC 17065:2012. The ISO/IEC 17065 standard specifies requirements, the observance of which is intended to ensure that certification bodies operate certification schemes in a competent, consistent and impartial manner, thereby facilitating the recognition of such bodies and the acceptance of certified products, processes and services on a national and international basis and so furthering international trade. This standard can be used as a criteria document for accreditation or peer assessment.

Section 66387.2(a)(6) - NELAC Institute Standard, Environmental Laboratory Sector, Volume 1, "Management and Technical Requirements for Laboratories Performing Environmental Analysis," dated 2009. This reference is necessary because it provides details on the validation package that laboratories must submit to the Department as part of an alternative testing method request.

The purpose of this NELAC guidance is to provide a means for an accreditation body to evaluate a laboratory's performance, under specified conditions relative to a given set of criteria in a specific area of testing. The secondary objective is to provide guidance for a laboratory's management and technical quality system to perform environmental testing. The guide contains the essential elements required to establish a quality system that produces data of known and documented quality, and demonstrates proficiency through the use of proficiency testing and employee training. This document provides the requirements needed for laboratory accreditation. If the requirements of this document are met, the laboratory operates a quality system in conformance with the applicable clauses of ISO/IEC 17025:2005(E).

Section 66387.2(a)(7) - SAE J 866:JUL2012, "Friction Coefficient Identification and Environmental Marking System for Brake Linings," dated July 2012. This document is necessary to provide guidance to the brake friction material manufacturers on the appropriate format and location for the marked proof of certification on the brake friction material. The SAE J 866 standard requires that brake friction material be marked with the following information, in the following order:

1. Manufacturer identifier
2. Friction formula identifier

} "Unique Identification Code"

3. *Hot and cold coefficients of friction*
4. *Optional batch code or other optional information*
5. Environmental designator and year of manufacture

} "Environmental Compliance Marking"

This section provides manufacturers the criteria for testing and marking and adopting certification procedures for brake friction materials. This provision references the SAE

International standard J 866 as the industry standard for marking brake friction material. SAE International is a forum for companies, government agencies, research institutions and consultants to devise technical standards and recommended practices for the design, construction, and characteristics of motor vehicle components. SAE documents do not carry any legal force, but are in some cases referenced by the U.S. National Highway Traffic Safety Administration (NHTSA).

Section 66387.2(a)(8) - SAE J 2975:DECEMBER2013, "Measurement of Copper and Other Elements in Brake Friction Materials," dated December 2013. This document provides analytical laboratories, brake friction material manufacturers, and testing certification agencies access to the approved testing method.

This section is necessary because the statute requires DTSC to consult with the brake friction materials manufacturing industry in the development of all criteria for testing and marking of brake friction materials and adopting certification procedures for brake friction materials. This provision references the SAE International standard J 2975 as the industry standard for testing brake friction material. The DTSC Environmental Compliance Laboratory, the State of Washington environmental laboratory, and three other industry laboratories collaborated on the testing methodology and all agreed that SAE J 2975 is appropriate to verify compliance with the statute.

66387.3 Self-certification of compliance

This section is necessary to describe the scope and purpose of the certification procedures for brake friction materials under Health and Safety Code section 25250.60(a). Health and Safety Code section 25250.60 (a) states:

> "the ***department shall consult*** with the brake friction materials manufacturing industry in the ***development*** of ***all criteria for testing and marking brake friction materials*** and ***adopting certification procedures for brake friction materials***, as required pursuant to this article." (Health & Safety Code section 25250.60 (a). emphasis added)

This section provides the details and the steps a manufacturer must take in order to self-certify that their brake friction materials comply with the statutory requirements for constituent concentrations.

The testing certification agency:

- Verifies the brake friction material is tested by an analytical laboratory accredited in accordance with California Code of Regulations, title 22, section 66387.5(a);
- Verifies the use of testing protocol SAE J 2975:DECEMBER2013 or an alternative testing method approved under section 66387.6, section (l); and
- Assigns the environmental compliance marking and posts the marked proof of certification and self-certification documentation on their website.

Certification is the process of publicly attesting that a specified standard has been achieved. This formal procedure can be used to assess and verify a level of quality, standard, attribute, characteristic, or qualification in regards to the status of individuals or organizations, goods or services, procedures, or processes, in accordance with established requirements or standards. Because the term “certification” is used for several different activities, it is necessary to provide more clarity on the term “self-certification.”

Section 66387.3(a) makes clear the self-certification requirements will ensure the brake friction material manufacturers meet Health and Safety Code sections 25250.51, 25250.52, and 25250.53. The self-certification process outlined in subsections of 66387.3 is a registration process where the brake friction material manufacturer registers their brake friction material with the testing certification agency. The testing certification agency verifies the brake friction material is tested by an analytical laboratory accredited in accordance with section 66387.5 and is analyzed using testing protocol outlined in section 66387.6. The testing certification agency then assigns the environmental compliance marking and posts the marked proof of certification and self-certification documentation on their website. The self-certification process has been harmonized with the State of Washington Better Brakes regulations and reflects the current process in place to certify brake friction material. The self-certification process in 66387.3 is necessary because it reduces duplication and ensures consistency between the two states on key steps of the self-certification process.

Figure 1 illustrates the self-certification process.

Section 66387.3(a)(1) makes it clear that a sample of the brake friction formulation be submitted for laboratory testing. This is necessary to ensure that the properties of the sample are representative of the properties of the formulation and the laboratory analysis has been established to clearly specify the concentrations of the constituents that will be measured. Furthermore, the laboratory sample must be submitted to an approved laboratory in accordance with section 66387.5. This provision is necessary to restrict the chemical analysis to only the laboratories that meet the requirements set in section 66387.5.

Section 66387.3(a)(2) makes it clear that the brake friction material manufacturer confirm that all testing results have been forwarded by the testing laboratory. This step is necessary to ensure that there is communication between the manufacturers and the laboratory to verify testing has been completed and submitted to the testing certification agency in a timely manner. Ultimately, it is the manufacturer's responsibility to confirm that testing results have been submitted, so this provision requires the manufacturer follow-up with the testing certification agency in the event the laboratory does not send a confirmation to the manufacturer by the expected delivery date for the testing results.

In addition, this provision clarifies that it is acceptable for the brake friction material manufacturer to review the testing results prior to the laboratory sending the results to the testing certification agency. This is necessary to provide a manufacturer the opportunity to compare the results obtained from the laboratory sample against the known composition of the formulation. It is crucial that the samples are a good representation of the brake friction material produced and that the manufacturer can properly sign the certification statement required in this subsection.

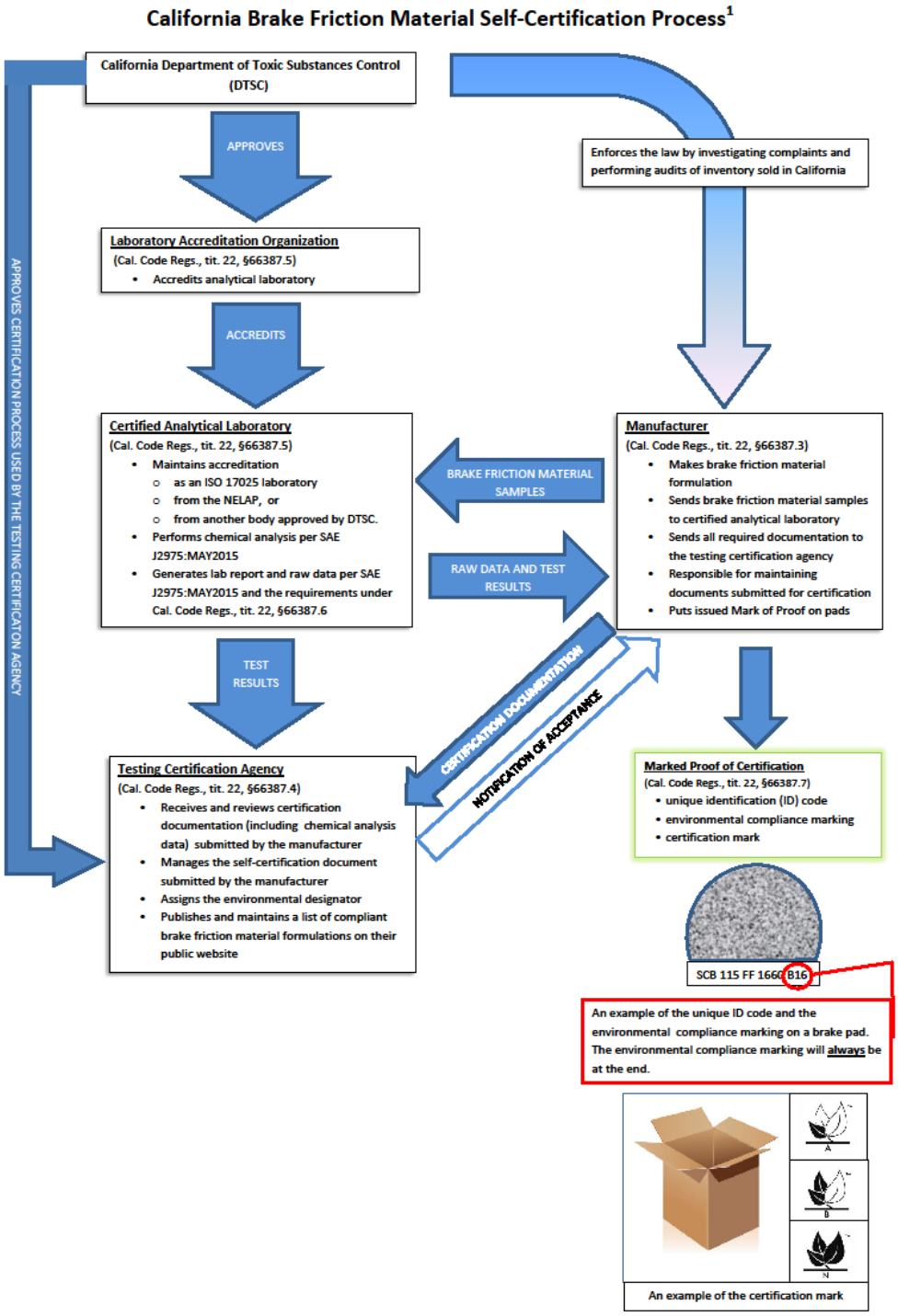
The last element of this provision requires that all testing and reporting of results must be carried out in accordance with the testing methodology. By referencing the methodology specified in section 66387.6, it makes it clear that the manufacturer is responsible for choosing a laboratory that can meet the testing and reporting requirements.

Section 66387.3(a)(3) makes it clear that the manufacturer verifies that the brake friction material is assigned an unique identification code ending in the appropriate environmental compliance marking. This provision ensures that brake friction material products can be traced back to a manufacturer by providing a code for both the manufacturer and a code for the formulation. A manufacturer may also choose to use multiple unique identification codes for the same formulation if necessitated by business agreements or to distinguish different brand names for products.

The manufacturer is also required to include an environmental compliance marking based on the known composition of the brake friction material and the year the material was manufactured. Because the restrictions on copper are phased in, it is important to indicate on the brake friction material whether the material meets the 2014 requirements (marked with an "A"), the 2021 requirements (marked with a "B"), or the 2025 requirements (marked with an "N"). The year of manufacture will indicate when the formulation was produced. For example, an environmental compliance marking of N15 means the brake friction material meets the 2025 standard and was manufactured in

Figure 1. California Brake Friction Material Self-Certification Process

2015. This



marking will be invaluable to retailers and customers that want to sell or purchase compliant brake pads.

Section 66387.3(a)(4) is necessary for clarity because it lists all the required information to be included in the self-certification document that a manufacturer must submit to the testing certification agency.

Section 66387.3(a)(4)(A) makes it clear the following information is necessary to accurately identify the manufacturer and their point of contact for brake friction material testing:

Paragraph 1. Contact person's name; and
Paragraph 2. Contact person's job title; and
Paragraph 3. Contact person's e-mail address; and
Paragraph 4. Business's name; and
Paragraph 5. Business's address; and
Paragraph 6. Business's phone number or the contact person's phone number

Section 66387.3(a)(4)(B) sets out a certification statement that must be included and signed for self-certification documentation. This certification statement is necessary because it ensures all self-certifications are accurate, and brake friction materials bearing the listed unique identification codes are of the same composition as the samples submitted to the laboratory. By signing the certification, a manufacturer confirms the following:

- Certifies as true and accurate all information in the submittal;
- Asserts that the friction materials bearing the marked proof of certifications in this certification document are substantially identical to the products submitted for testing;
- Asserts that the brake friction material meets the requirements of all applicable laws and authorizes the testing certification agency to publicly post all information required to be made public;
- Asserts that all test results used to issue this self-certification comply with all requirements of the regulations and statute;
- Agrees that the testing certification agency will have no liability to the manufacturer with respect to release of the testing data to any government agency with the legal authority to receive such data; and
- Asserts the individual signing the certification document has the authority to make this assertion on behalf of the manufacturer.

This subsection is necessary to comply with the statutory requirement of Health and Safety Code sections 25250.60 subdivision (c), subdivision (e), and subdivision (g). The certification statement serves as proof of self-certification as required by statute. The provision allows DTSC to review any changes to the affidavit language and confirm required language listed in section 666387.3(a)(4)(B) is not removed.

Section 66387.3(a)(5) makes it clear the brake friction material manufacturer verifies that the testing certification agency has posted on the Internet each brake friction formulation that complies with these regulations. The manufacturer is responsible to confirm that all their brake friction materials are publicly posted and are searchable in an accessible online database or list maintained by the testing certification agency.

Section 66387.3(a)(5)(A) makes it clear the testing certification agency notifies DTSC whenever the database or list of certified brake friction material changes. The testing certification agency serves as the official registrar of certification for compliance and has the flexibility to send DTSC notifications either by electronic mail or United States mail. DTSC will not receive any testing data from the analytical laboratories or from the brake friction material manufacturers. This section is necessary because it is the only mechanism available to DTSC to be kept informed in regards of the rate of compliance by manufacturers.

Section 66387.3(a)(5)(B). The testing certification agency must include the manufacturer's name, the unique identification code, and the full URL address to the certification document. This section is necessary to assure that DTSC has all the information needed to monitor the implementation of the regulations and to enforce against manufacturers that are not in compliance.

Section 66387.3(a)(5)(C) makes it clear the testing certification agency notifies the Department within thirty days whenever the Internet address of this data base or list changes. This is necessary because websites are constantly being updated and improved. DTSC will need to be apprised of any changes to the URL address for this critical information in order to update the DTSC web page with a proper hyperlink. This hyperlink will be used by all stakeholders that need to verify which brake friction material has been certified to meet the statute.

Section 66387.3(a)(6) is the last step in self-certification. It requires the manufacturers to mark brake friction material products with the marked proof of certification. The marked proof of certification is necessary because it links the product to the laboratory testing results and shows proof that the self-certification procedure has been followed.

Section 66387.3(b) allows the manufacturers to use one set of testing results and self-certification documentation, and a single unique identification code for multiple products using an identical brake friction material formulation. There are numerous types of brake pads, depending on the intended use and type of vehicle. A single brake friction material may be used for many different brake pad configurations and may be produced for different retailers or vehicle manufacturers. The laboratory testing results are linked to a specific formulation and its composition. This provision is necessary because it makes it clear that only the formulation needs to be tested and the results can be used for any number of brake pad products using the same formulation.

Section 66387.3(c). This provision puts the responsibility of the accuracy of all information transmitted to the testing certification agency on the manufacturer of brake friction material. This provision is necessary because the self-certification process involves multiple entities. It ensures that accurate information is transmitted to the testing certification agency by the brake friction material manufacturer.

DTSC's ability to implement the directives of Health and Safety Code sections 25250.52 and 25250.53 requires that DTSC be able to compel and enforce compliance with the requirements of these regulations.

66387.4 Testing Certification Agencies for brake friction materials

This section is to approve the certification agency requirements used by the testing certification agency under Health and Safety Code section 25250.60(a). Health and Safety Code section 25250.60(a) states:

> "**The department shall consult** with the brake friction materials manufacturing industry in the **development of all criteria for testing and marking brake friction materials** and **adopting certification procedures for brake friction materials**, as required pursuant to this article. The mark of proof of certification on brake friction materials shall identify the brake friction material manufacturer, be easily applied, be easily legible, and not impose unreasonable additional costs on manufacturers due to the use of additional equipment or other factors." (Health & Safety Code section 25250.60 (a). emphasis added)

The department has attempted to identify other organizations that would meet the definition of a "testing certification agency" over the past few years. These efforts included issuing a request for qualifications (RFQ) in February 2012, and contacting the American National Standards Institute (ANSI)." To our knowledge, no other state, including the State of Washington, has a program to accredit organizations to certify the

material contents of brake friction materials. If such programs exist, the department is interested in contacting these states.

The department also developed guidelines for selecting a “testing certification agency” in 2013. Without regulations, the department cannot issue a letter or other document on whether an organization’s certification requirements are approved by the department. The requirements outlined in 66387.4 are needed to establish the minimum qualifications of a testing certification agency and the information a testing certification agency must submit to the department in order to obtain approval of their certification requirements. Subsections (a) through (c) are the certification requirements to be used by a testing certification agency to facilitate the acceptance of the marked proof of certification in accordance with Health and Safety Code subdivision 25250.60(j).

As discussed in the ISOR section 66387.1(n), the responsibilities outlined in the proposed regulations for the “testing certification agency” are more like the tasks associated with a “registrar” than an analytical laboratory. There are many certification bodies in the United States (U.S.) that do not operate a testing laboratory. DTSC does not require a “testing certification agency” to have in-house analytical laboratory. A “testing certification agency” that contracts with analytical testing laboratories accredited by a recognized ILAC accreditation body is acceptable.

However, to be consistent with the California statute, the department must use the term “testing certification agency” in the regulations. To clarify the department’s interpretation of the term, a sentence was added to the regulatory definition stating, “The term ‘registrar’ is used by the industry when referring to this entity.” for clarification.

The industry term “registrar” is used in the U.S. for certification bodies performing registration or certification of products or manufacturers. This introduction makes clear that the “testing certification agency” principally serves as the registrar and provides lists of products that have been certified and are registered with the organization as fully conformant to one or more product standards in accordance with HSC sections 25250.51, 25250.52, or 25250.53.

Section 66387.4 (a) makes it clear the “testing certification agency” meets the requirements of section 66387.5 and the ISO/IEC Guide 65 or ISO/IEC 17065:2012 standard issued by an accreditation body, operating in accordance with ISO/IEC 17011:2005. Furthermore, the accreditation body shall be a signatory to the ILAC Arrangement for testing (ISO/IEC 17025) or the International Accreditation Forum arrangement for product certification.

The subsections detail requirements a testing certification agency is responsible to perform. The accreditation requirements will provide formal recognition for testing certification agencies. Most of the accreditation bodies, the testing certification agencies, the testing laboratories used by the motor vehicle industry, and the brake friction material manufacturers are located outside of California. This section is necessary to reduce costs and redundancy and to provide assurance that accredited organizations are competent and their results can be relied on.

Section 66387.4 (a)(1) makes it clear the testing certification agencies use data from an accredited laboratory in accordance with section 66387.5 or from a laboratory with an alternative accreditation that has obtained approval from DTSC prior to testing the brake friction material. This section is necessary because accredited laboratories will help ensure the competency of the testing laboratory and their testing data results.

Section 66387.4 (a)(2) makes it clear the testing certification agency receives confirmation from the analytical laboratory that the chemical analysis was conducted using the testing methodology in accordance with section 66387.6(a) or an alternative testing method that has been approved by DTSC prior to testing the brake friction material. It is necessary to have the testing certification agency confirm that appropriate testing methods have been used because DTSC will not have access to any of the testing data results and will be relying on the testing certification agency to verify compliance with the testing methodology requirements.

Section 66387.4 (a)(3) makes it clear the testing certification agency issues a "certification of compliance" to the brake friction material manufacturer whenever their formulation(s) complies with Health and Safety Code sections 25250.51, 25250.52, or 25250.53. This is necessary to comply with Health and Safety Code section 25250.60(h) and to provide a certification as proof of compliance.

Section 66387.4 (a)(4) makes it clear the testing certification agency publishes all self-certifications on their Internet website. Although this requirement is dictated in statute, this provision is necessary in order to establish it is appropriate to publish the certifications on the Internet. It is necessary to have the certifications available for DTSC and the public to verify compliance with the statute and the regulations.

Section 66387.4 (a)(5) makes it clear the testing certification agency assigns the environmental compliance marking on the basis of the analytical testing done in accordance with section 66387.6 and in a format that conforms to section 66387.7(c)(3). This is necessary because the environmental compliance code is confirmation that the brake friction material is in compliance with the statute. The testing certification agency

will be the only other entity besides the manufacturer with access to the testing results. This provision imposes the responsibility on the testing certification agency to publicly attest that the brake friction material standard has been achieved.

Section 66387.4 (a)(6) makes it clear the testing certification agency posts on the Internet the certification document that includes the marked proof of certification as marked on the brake friction material. The material must be marked with the unique identification code and the environmental compliance marking with or without the two digits that indicate the year the brake friction material is produced. By allowing the environmental compliance marking to be posted without the year, the posting for each compliant brake formulation will only be posted once compared to multiple listings for each certification. The certification is valid over multiple years for a given environmental compliance mark and the link to the certification document provides the effective dates for each environmental compliance mark. For example, if the certification for a specific formulation is only valid 11/2017 through 10/2020 and the posting includes year of manufacture, the listing of the certification on the Internet would have to list the certified brake friction material as:

- XYZ formula 3 (may include additional optional codes) A17;
- XYZ formula 3 (may include additional optional codes) A18;
- XYZ formula 3 (may include additional optional codes) A19; and
- XYZ formula 3 (may include additional optional codes) A20.

This provision is necessary because it provides the testing certification agency flexibility by allowing one certification document to cover multiple listings for the same formulation. In the example above, this allows the certification for the formulation to be posted as XYZ formula 3 with a link to the actual certification document which would include the appropriate date of effectiveness. If a certification is no longer valid, the expired certification is deleted from the Internet so that only current certifications are posted.

Section 66387.4 (b) sets out the process for a testing certification agency to obtain an approval from the department on its certification requirements in accordance with the statute (HSC §25250.60(a)). This requirement is necessary to specify the qualification standards for the testing certification agency and the evaluation standards used for analytical testing results. The testing certification agency will make decisions about the legitimacy or appropriateness of the analytical testing. An entity wishing to be designated as a testing certification agency must possess the qualifications and provide the necessary documentation, as specified in section 66387.4(b).

The provisions of this subsection are necessary to ensure that all persons involved in certifying brake friction material possess the knowledge, experience, and expertise in order to ensure the reliability and integrity of this process. In developing these regulations, DTSC considered and evaluated various alternatives that would minimize the cost to the state while ensuring sufficient capacity to perform the work. It is necessary to include uniform standards for the testing certification agency to create public confidence in the analytical testing results.

Section 66387.4 (b)(1) lists the information that is necessary to accurately identify the organization requesting the approval as a testing certification agency and their point of contact.

Section 66387.4 (b)(2)(A) makes it clear the organization requesting to be approved as a testing certification agency for brake friction material certification needs to have a certificate of conformity accreditation for ISO/IEC 17065:2012. This requirement is necessary to ensure the testing certification agencies that perform the evaluations and laboratories that perform analytical testing do so in a competent, consistent, and impartial manner. This, in turn, promotes reliability and consistency in the evaluation and analytical testing results that DTSC will not be able to review or audit.

Section 66387.4 (b)(2)(B) makes it clear the testing certification agency submits their Standard Operating Procedures (SOP) for Material and/or Product Certification. SOPs are written to ensure that documented work processes can be repeated on a routine basis and meet certain minimum quality requirements. Establishing SOPs is necessary to reduce errors or variations that occur in the duplication of a service.

Section 66387.4 (b)(2)(C) is necessary for clarity because it lists the documentation required for the brake friction material certification process.

Section 66387.4 (b)(2)(C)1 makes it clear the testing certification agency includes a copy of the chemical analysis testing method and chemical analysis sampling process. This section is necessary because it will guarantee that the testing certification agency is using the proper version of the testing method.

Section 66387.4 (b)(2)(C)2 makes it clear the testing certification agency provides a copy of the quality assurance procedures for checking testing results and rejecting testing results that are not within the quality control limits. Since DTSC will not be able to review or audit the analytical test results, this section is necessary to allow DTSC to review the quality assurance procedures used by the testing certification agency to ensure their evaluation of the analytical test results will identify brake friction materials

that comply with the requirements of Health and Safety Code sections 25250.51, 25250.52, and 25250.53.

The quality assurance measures place specific requirements on a laboratory performing analytical testing of brake friction material. The standards of quality must define the expected level of technical performance for each analytical method and describe the requirements that a laboratory should follow to ensure the quality and integrity of the data and competency of the laboratory. Measuring quality means quantifying the level of performance against the expected defined standards. The process requires identifying attributes of performance, data collection, and information analysis.

Section 66387.4 (b)(2)(C)3 makes it clear the certification cycle for each brake friction material is completed at least every three years. The testing certification agency must verify that brake friction material manufacturers submit updated self-certification documentation and new laboratory testing results on this three-year cycle. This is necessary to validate the reduction of copper as it happens.

However, the provision does not require brake friction material meeting the requirements of Health and Safety Code section 25250.51 to be recertified prior to 2021. This is necessary to allow the brake friction material manufacturers to focus their efforts on reformulating products to meet the 2021 copper restrictions. Formulations that meet the 25250.51 standards are not required to limit copper concentrations in their product and thus, will not impact reduction of copper emissions in the State.

Section 66387.4 (b)(2)(C)4 makes it clear the testing certification agency provides a copy of the procedure used to ensure every self-certified brake friction material formulation has a unique identification code. There will be multiple manufacturers independently submitting product testing results and a corresponding unique identification code for each of their formulations. It is imperative that there is a central entity that will be responsible to ensure each of the identification codes is unique because each of the certifications is linked to each of these codes.

Section 66387.4 (b)(2)(C)5 makes it clear a copy of the proposed manufacturer declaration of self-certification of compliance is included. This is necessary because it allows DTSC to review any changes to the affidavit language and confirm required language listed in section 666387.3(a)(4)(B) is not removed.

Section 66387.4 (b)(2)(C)6 makes it clear the testing certification agency provides a copy of the proposed format for the “marked proof of certification**.**” This includes both the marked proof on the brake friction material and the certification mark on the product packaging. This is necessary to assure DTSC that the testing certification agency uses

the SAE J 866 marking standards and to notify DTSC if a packaging logo besides the AASA's Leafmark™ is to be used.

Section 66387.4 (b)(2)(C)7 makes it clear the testing certification agency provides a copy of the procedure regarding self-certification information on brake friction materials on their Internet website. This is necessary to establish how the list of self-certified materials will be displayed and the frequency of updates. This includes a description of the registration procedures, date of the last update of the list of registered materials, and a description and graphics illustrating the marked proof of certification on the pad and packaging logo. Reviewing this procedure is necessary to confirm that the testing certification agency has the competency and capacity to maintain and keep current the list of all self-certifications on the Internet.

Section 66387.4 (b)(2)(C)8 makes it clear the testing certification agency provides assurance that an Internet address has been established where all certifications will be published. Furthermore, there cannot be any cost to the public to access this information. This is necessary to allow consumers and retailers purchasing brake friction material to easily verify compliance using the marked proof of certification. This will be especially critical for California retailers to identify compliant brake friction materials prior to sale or installation.

Section 66387.4 (b)(2)(C)9 makes it clear the testing certification agency provides a copy of the trademark for a packaging logo if one is issued by the testing certification agency. This section is necessary to disclose the registered certification mark intended to certify compliance or to assure that the testing certification agency has obtained authorization to use any existing certification marks.

Section 66387.4 (b)(2)(D) makes it clear the testing certification agency provides a copy of the certification credentials for the chemical analysis laboratory(ies) used by the testing certification agency. These laboratories will be used by the brake friction material manufacturers to comply with these requirements. This section is necessary for DTSC to verify the certification credentials of the laboratories that will be used as part of the approval process for the certification requirements used by the testing certification agency. It is necessary for DTSC to verify that a laboratory used by the testing certification agency is qualified and equipped for testing products in accordance with SAE J 2975:DECEMBER2013 and comply with requirements of section 66387.5.

Section 66387.4 (b)(3) allows an organization to submit a request for approval of certification agency requirements by either electronic mail or in writing via certified mail. It is also necessary to identify on the subject line or on the envelope that the submittal

includes a “California Brake Pad Testing Certification Agency Request” in order to ensure timely delivery of the submittal to the proper program within DTSC. This section is necessary for clarity because it instructs the affected stakeholders on how to submit a request for approval in accordance with section 66387.4.

Section 66387.4 (c) makes it clear that DTSC shall notify the organization submitting the request in writing of its determination of approval or denial within 90 days of receipt of the request. Any certification requirements approved by the department for an organization wishing to be a testing certification agency shall be posted on DTSC’s web page. If DTSC denies the request, the organization submitting the request will be given the reasons why their certification requirements were not approved.

This section is necessary because DTSC must make timely decisions regarding the certification requirements used by the testing certification agency so that businesses can proceed with minimal interruptions to getting their brake friction material registered with an appropriate testing certification agency.

Section 66387.4(c) also does not require an approved testing certification agency to resubmit documentation in accordance with section 66387.4(b)(2)(D) for additional laboratories to be used as long as these additional analytical laboratories comply with the requirements in section 66387.5(c)(2). This provision will allow testing certification agencies the flexibility to add laboratories and meet market demands so long as the laboratories comply with the accredited requirements in section 66387.5. This section is necessary because it will reduce the reporting burden for testing certification agencies that have been approved by DTSC and allow for timely additions of laboratories to address needed testing capacity.

66387.5 Accredited laboratories for brake friction materials

This section is to adopt and approve testing certification agency requirements under Health and Safety Code section 25250.60(a). Health and Safety Code section 25250.60(a) states:

> “The department shall consult with the brake friction materials manufacturing industry in the development of all **criteria for testing** and marking brake friction materials and **adopting certification procedures for brake friction materials**, as required pursuant to this article. The mark of proof of certification on brake friction materials shall identify the brake friction material manufacturer, be easily applied, be easily legible, and not impose unreasonable additional costs on

manufacturers due to the use of additional equipment or other factors." (Health & Safety Code section 25250.60 (a). emphasis added)

Section 66387.5 is necessary to provide details on the accreditation a laboratory shall possess to be an "accredited laboratory." The section also includes a process for the department to evaluate other accreditation programs that a manufacturer, testing certification agency, or laboratory feels are equivalent. This section is needed since it is part of the information submittal by the testing certification agency to obtain the department's approval on their certification requirements in section 66387.4 and as part of the requirements on the testing methodology outlined in 66387.6.

Section 66387.5 (a) sets out the accreditation standard that the analytical laboratory needs to ensure testing results can accurately demonstrate compliance with the statute (HSC §§ 25250.51, 25250.52, and 25250.53). Laboratory accreditation is a process using criteria and procedures specifically developed as a means of determining technical competence.

For the purposes of these regulations, DTSC has determined that the laboratory accreditation must meet either ISO/IEC 17025 or the National Environmental Laboratory Accreditation Program (NELAP) standard. ISO/IEC 17025 is an internationally accepted standard for laboratory accreditation; while, NELAP is the national accreditation program for environmental laboratories. ISO/IEC 17025 is a general standard for analytical laboratories so it is necessary to specify the requirement that the scope of competency must include SAE J 2975:DECEMBER2013 as the testing methodology to be certified. NELAP includes sample preparation and test methods identified in SAE J 2975:DECEMBER2013.

These laboratory accreditation standards are necessary to assess factors relevant to a laboratory's ability to produce precise, accurate test and calibration data in accordance to the testing methodology specified in SAE J 2975:DECEMBER2013. See ISOR section 66387.2(a)(4) for a further discussion of the ISO/IEC 17025 standard and ISOR section 66387.2(a)(6) for NELAP accreditation.

Section 66387.5(b) allows for an alternative laboratory accreditation that is not listed in section 66387.5 (a). Although ISO/IEC 17025 is used throughout the world and NELAP is used nationally, this subsection provides DTSC the flexibility to approve other accreditation standards should the need arise. This provision can be requested by the brake friction material manufacturer, a laboratory, or a laboratory accreditation body as long as it can demonstrate to DTSC that the alternative laboratory accreditation is equivalent to or better than the standards in subsection 66387.5(a). Once an alternative

laboratory accreditation has been approved, any person may use the alternative laboratory accreditation for certification. This section is necessary to accommodate additional or new accreditation bodies which in turn can increase innovation, new technology, and competition.

A secondary need for alternative laboratory accreditation standards is that environmental testing involves testing for trace contaminant concentrations. Many NELAP accredited laboratories may not choose to do the SAE J 2975 testing because of the risk of contaminating the laboratory with high concentrations of metals during sample preparation. This section would allow for a greater pool of potential laboratories to be available to the manufacturers provided they can be properly accredited.

Section 66387.5(c) is necessary for clarity because it sets out the process for requesting approval for an alternative laboratory accreditation not specified in section 66387.5(a).

Section 66387.5(c)(1) is necessary for clarity because it lists the contact and business information needed to identify the entity requesting approval for an alternative laboratory accreditation.

Section 66387.5(c)(2) makes it clear that a manufacturer of brake friction material, laboratory or laboratory accreditation body provides a copy of the alternative laboratory accreditation standard or the proficiency testing procedures for the laboratory accreditation program. This section is necessary because DTSC will review this information to determine if the proficiency standards for the alternative accreditation provide the same or better level of competency for laboratories as the NELAC accreditation or the ISO 17025 standard.

Section 66387.5(c)(3) allows the request for approval to be sent either via electronic mail or certified mail. The use of certified mail will provide proof of the request and establish the receipt date. Requiring the words “Attention: California Brake Pad Alternative Laboratory Accreditation Request” displayed in the subject line of the electronic mail; or displayed on the front of the envelope will ensure that the request is routed properly when it arrives at DTSC. This section is necessary for clarity because it instructs the affected stakeholders on how to submit requests for approval in accordance with section 66387.5.

Section 66387.5(d) makes it clear DTSC shall make a determination on the request within 90 days of its receipt. Once the determination is made, DTSC must notify the entity that requested the approval of an alternative laboratory accreditation in writing

and provide the basis of the approval or denial. Any approved alternative laboratory accreditation standards by the department must also be posted on DTSC's web page. This section is necessary because DTSC must make timely decisions regarding the alternative accreditation standards so that businesses can proceed with minimal interruptions to getting an appropriate laboratory to perform testing of brake friction material.

66387.6 Testing methodology and maximum concentrations of regulated constituents and copper for brake friction materials

This section is to adopt criteria and procedures to test brake friction materials under Health and Safety Code section 25250.60(a). Health and Safety Code section 25250.60 (a) states:

> " ***the department shall consult*** with the brake friction materials manufacturing industry in the ***development*** of ***all criteria for testing and marking brake friction materials*** and ***adopting certification procedures for brake friction materials***, as required pursuant to this article." (Health & Safety Code section 25250.60 (a). emphasis added)

Section 66387.6(a) is necessary because it makes it clear the manufacturer is responsible for having their brake friction materials tested by a laboratory accredited in accordance with section 66387.5 using the testing protocol SAE J 2975.
Section 66387.6(b) makes it clear the brake friction material manufacturers ensure that their brake friction material is tested for each of the following:

- Asbestiform fibers;
- Cadmium and its compounds;
- Chromium (VI)-salts;
- Copper and its compounds, starting in 2021;
- Lead and its compounds; and
- Mercury and its compounds.

This is necessary to meet the criteria for testing brake friction material that is sold in California and ensure the product complies with the requirements of this statute. The manufacturer is solely responsible for testing their products.

Section 66387.6(c) makes it clear the analytical laboratory must be responsible for the accuracy of the test results reported to the testing certification agency. The brake

friction material manufacturer is responsible to confirm the concentrations of regulated constituents and copper reported correspond to the concentrations known to be in their brake friction material formulations prior to the analytical laboratory reporting these testing results to the testing certification agency. It is necessary for the laboratory to ensure accuracy of their testing and to have the manufacturer cross check the testing data with the known composition of their formulations. The manufacturer must take affirmative steps to ensure the validity of the test data being relied upon. The manufacturer must use their knowledge of the ingredients as a confirmation step in self-certification. This quality control step will allow for the identification of testing irregularities, or discrepancies in the data. This section is necessary because it describes the responsibilities of the manufacturer and analytical laboratory to ensure accurate testing results are transmitted to the testing certification laboratory.

Section 66387.6(d) lists the maximum concentrations for the regulated constituents and copper specified in the statute. This provision also requires that the cumulative average of all testing data must show that the brake friction material does not exceed the specified concentrations for certification of compliance.

Brake friction material can vary by type, such as metallic, semi-metallic, or ceramic, and composition. Each manufacturer has its own unique proprietary composition. Another source of variability in formulations is dependent on the form in which the regulated constituent and copper was added to the original brake friction material. Thus, the form or source of the regulated constituents and copper will determine if it is distributed throughout the material homogeneously or heterogeneously. For example, if copper is added as copper or brass fibers, the distribution of copper is heterogeneous and can be visibly discerned. If copper is added as a fine powder, the distribution is more homogenous.

Compliance with the established limits is achieved by checking whether the concentration of each of the regulated constituents is below each of the limits specified in the statute. The assessment of the concentration by a deterministic measurement is not possible, so statistical parameters must be established. Due to the inherent variability of brake friction material, the cumulative average of the triplicate samples must be used in order to show compliance with these specified limits. This section is necessary because it provides a consistent method for reporting the testing results to show compliance.

Section 66387.6(e)(1) makes it clear the testing for the regulated constituents is done at least in triplicate. Testing introduces additional variability or analytical uncertainty in the testing data results and may result in the need for additional testing.

A statistical quantity includes an average or mean, a variance and an assumption of the distributional models, e.g., normal, lognormal, etc. Because testing will involve only a few samples, 100% certainty cannot be achieved, so it is necessary to define an acceptable uncertainty of the testing results. For the average, the lower and upper limits of a confidence interval will define the most probable concentration range within which the true average lies based on the acceptable uncertainty determined by the manufacturer. Defining the average and other statistical parameters is important to achieving fulfillment of the condition for the formulation to be below the specified concentrations for each restricted constituent stated in statute. This section is necessary because it instructs the brake friction material manufacturers and analytical laboratory on the method to address variability due to the heterogeneous nature of the brake friction material.

Section 66387.6(e)(2) extends triplicate testing to any approved alternative testing method or protocol if used. See the discussion above on the use of sample averages of triplicates to demonstrate compliance. This section is necessary for clarity to ensure the method used for sample averages are consistent for SAE J 2975:DECEMBER2013 and the alternative method.

Section 66387.6(f) makes it clear that the department does not require laboratory testing results be reported. This section is necessary for clarity on the reporting requirements for brake friction material manufacturers, laboratories and testing certification agencies.

Section 66387.6(g) is necessary because it clarifies that the analytical laboratories shall transmit all laboratory testing results for a brake friction material directly to the third party testing certification agency and lists all the reporting requirements that the laboratory must follow.

Section 66387.6(g)(1) is necessary because it clarifies that the testing reports transmitted from the laboratory to the testing certification agency must include the minimum information specified in SAE J 2975:DECEMBER2013 to stay compliant with the testing procedure.

If an alternate method of testing is approved, the test reports transmitted from the laboratory to the testing certification agency must include the minimum information specified in the alternate method of testing utilized.

Laboratory reports will include 1) general information identifying themselves, their client, and the sample type and matrix; 2) preparation and analysis methods, detection limits,

and results; 3) dates of sample receipt, sample preparation, and analysis; 4) the quality assurance/quality control sample results; and 5) comments or notes.

Section 66387.6(g)(2) makes it clear the testing laboratory compares and reports if the cumulative average for each regulated constituent and copper does not exceed the specified concentrations listed in the statute. The concentration limits set in statute are restated in this section to facilitate compliance by having all the information listed in one document. This section also makes it clear that the laboratory is responsible to confirm and document that the testing results do not exceed the concentrations listed in statute when they report testing results to the manufacturers.

Section 66387.6(h) allows a laboratory, at its discretion, to choose to retest the brake friction material if an error is suspected. The results from the testing in which the error occurred do not need to be included in the testing results transmitted to the testing certification agency. This provision is necessary to allow laboratories to follow their documented SOPs and correct any detected testing irregularities, or discrepancies in the data, thus, ensuring greater accuracy of their testing.

Section 66387.6(i) makes it clear a brake friction material manufacturer retains copies of laboratory testing results used for certification for a period of at least ten (10) years after the date of certification. It is desirable that testing records should be retained as long as the formulation continues to be in use in the market. This section is necessary because many brake friction materials will be available on the market or in use for many years and these documents preserve the testing results, even if the certification is no longer valid.

Section 66387.6(j) allows a manufacturer to self-certify compliance using testing results derived using an alternative testing method approved by DTSC in advance of use. Furthermore, once DTSC approves an alternative testing method, any manufacturer may use the approved alternative testing method for certification.

This is important because laboratory technology changes rapidly and we should be as close to the cutting edge as the data will allow. This provision is necessary to allow multiple entities greater flexibility to modify approved methods to lower measurement costs, overcome matrix interferences, use newer techniques, or otherwise improve the analysis. Extending the approvals to all entities involved in self-certification of brake friction material avoids having a single entity deviate from adopted testing method standards. This section keeps compliance with the testing methods uniform and avoids having to track limited approvals.

Section 66387.6(j)(1) allows a brake friction material manufacturer, a testing certification agency, or a testing laboratory used by a testing certification agency to propose an alternative testing method. DTSC expects that it will primarily be the testing laboratories that may avail themselves of this provision. This section is necessary because the manufacturers will gain flexibility by being able to propose alternative test methods that may best fit their needs for compliance measurements. By allowing any of these entities to propose new methods, this section will facilitate the submittals of new proposed testing methods.

Section 66387.6(j)(2) is necessary and makes it clear proposals for alternative testing methods are done in accordance with section 66387.6(k) which specifies the process for requesting approval. This section makes it clear that any person that requests approval for an alternative testing method must follow the process.

Section 66387.6(j)(3) disallows any proposed alternative testing method to modify the sample preparation method outlined in SAE J 2975:DECEMBER2013 section 4.1. The SAE J 2975 sample preparation method includes detailed instructions as to the use of a drill press, drill plunge rates, drill spindle speed, drill press stop depth, type of drill bit, number of borings needed, the collection method, and the preferred morphology of the drillings. Industry collaborated with the State of Washington and California to establish this preparation method. Due to the heterogeneity of brake friction material, this section is necessary to ensure that the morphology of the drilling and the number of borings result in an acceptable measurement variation of the chemical content of the material. The criterion in SAE J 2975 also specifies the acceptable standard deviation for the triplicate measurement to ensure good representation of the chemical composition of the material.

Section 66387.6(j)(4) makes it clear the proposed alternative testing method is publicly available. Accessibility to approved methods is necessary to ensure all entities involved in the self-certification of brake friction material can obtain and use the same testing methods. This section keeps compliance testing methods uniform and promotes reliable standards of quality.

Section 66387.6(k) is necessary for clarity because the entity that submits a request for approval on an alternative testing method do so either in writing or electronically and must include all the information specified in paragraphs (1) through (6).

Section 66387.6(k)(1) makes it clear the name and contact for the:

- Entity requesting the approval;
- Manufacturer(s) whose products were used to gather evidence;

- Laboratory(ies) which performed the testing; and
- Laboratory accreditation body(ies) which accredited the laboratory in accordance with section 66387.5 (a) or as approved in accordance with sections 66387.5(c) and (d).

This is necessary to establish the identity and qualifications of all entities involved with the proposal if questions or concerns arise during the review of the request.

Section 66387.6(k)(2) makes it clear a copy of the proposed alternative testing method is submitted to the Department. This is necessary to review and evaluate whether the alternative testing method is appropriate for testing the restricted constituents in brake friction material. It is important that DTSC understand and agree upon methods of obtaining data and making the required measurements.

Section 66387.6(k)(3) makes it clear a copy of the SOP for the alternative testing method is submitted to the Department. The SOP identifies the test method (method number or reference, analyte name or analyte group); the scope and application (objective, matrices, practical analytical range); and a summary of the method. NELAC standards apply to federal and state mandated testing for all environmental laws. This section is necessary because the DTSC laboratory will be relied upon to evaluate proposed alternative testing methods for equivalence to SAE J 2975:DECEMBER2013 and also perform future confirmation sampling for compliance purposes.

The provision also requires either a demonstration of capability (DOC) package or a validation package as outlined in the NELAC Institute Standard, Module 4: Quality Systems for Chemical Testing. It is very important that the scope of the test method be clearly defined and shown to be accurate and repeatable through validation. According to NELAC, validation is the confirmation by examination and the provision of objective evidence that the particular requirements for a specific intended use are fulfilled. A demonstration of capability document requires that the laboratory explicitly define what constitutes an initial demonstration of capability for each test and method the laboratory performs. Each of the methods used to analyze compliance samples must have this document completed for them by each analyst who will conduct that analysis.

Section 66387.6(k)(4) makes it clear a certificate signed by the director (laboratory director) of the laboratory that performed the proposed alternative testing method(s) can attest that the alternative method is equivalent or better than SAE J 2975:DECEMBER2013; and suitable for analyzing the restricted constituents identified in the statute. This section is necessary because the requestor must assure the department that the alternate testing method is equivalent or superior to SAE J 2975.

Section 66387.6(k)(5) makes it clear a copy of the data used by the laboratory director to determine that the proposed alternative testing method is equivalent or better than SAE J 2975 is submitted. This section is necessary because the DTSC laboratory will use this information to determine if the proposed alternative method is equivalent to or superior to the SAE J 2975 testing protocol.

Section 66387.6(k)(6) allows an entity to submit a request for approval of an alternative testing method by either electronic mail or in writing via certified mail. It is also necessary to identify in the subject line, or on the envelope, that the submittal includes a "California Brake Pad Alternative Testing Method Request" in order to ensure timely delivery of the submittal to the proper program within DTSC. This section is necessary for clarity because it instructs the affected stakeholders on how to submit a request for approval in accordance with section 66387.6.

Section 66387.6(l) makes it clear DTSC notifies a requestor of its determination to approve or deny the alternative testing method within 90 days of receipt of the request and provide the basis for the determination. DTSC will post approved alternative testing methods on its web page at http://www.dtsc.ca.gov to inform all interested parties of approved testing methods. This section is necessary because DTSC must make timely decisions regarding the alternative testing method so that businesses can proceed with minimal interruptions to getting an appropriate laboratory to perform testing of brake friction material.

66387.7 Marked proof of certification

This section is to adopt criteria and procedures to mark certified brake friction materials under Health and Safety Code section 25250.60(a). Health and Safety Code section 25250.60(a) states:

> " ***the department shall consult*** with the brake friction materials manufacturing industry in the ***development*** of ***all criteria for testing and marking brake friction materials*** and ***adopting certification procedures for brake friction materials***, as required pursuant to this article." (Health & Saf. Code § 25250.60 (a). emphasis added)

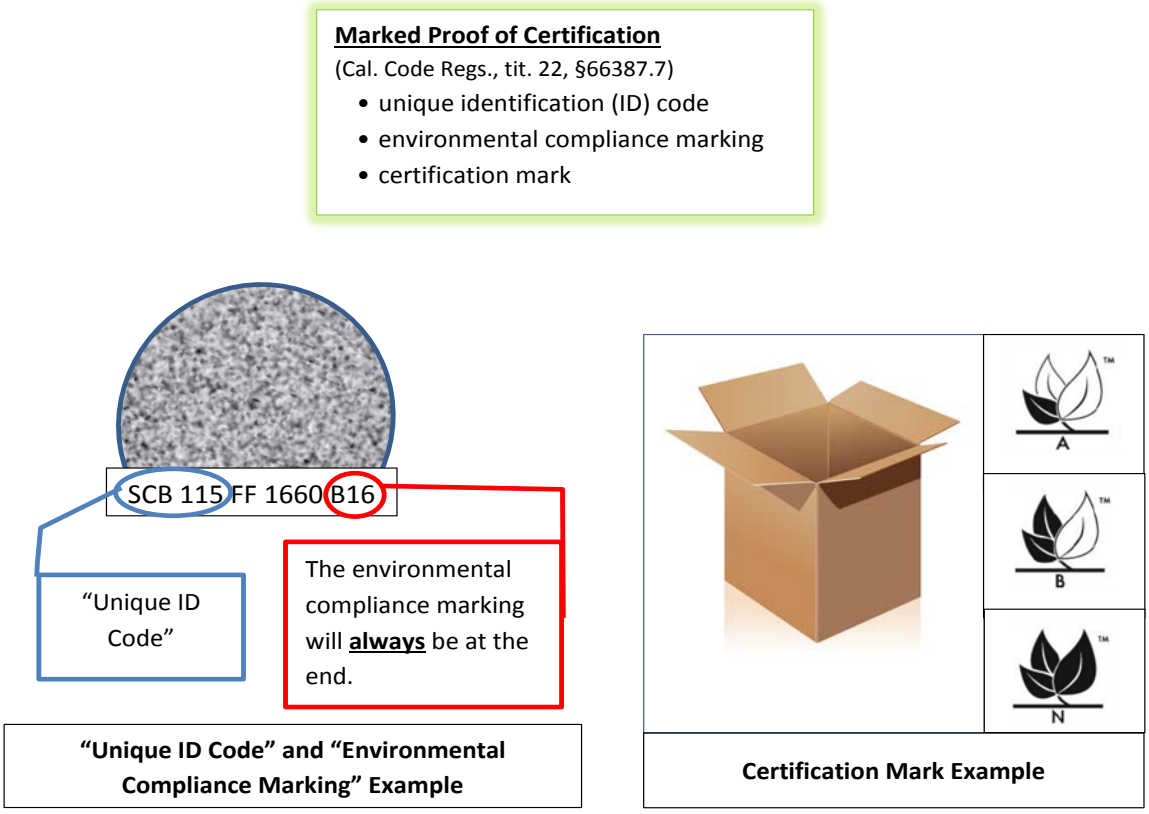
Under Health and Safety Code section 25250.60(j):

> "The ***certification*** and ***mark of proof*** required pursuant to this section ***shall show a consistent date format, designation, and labeling*** to facilitate ***acceptance in all 50 states and United States territories*** for purposes of ***demonstrating***

compliance with all applicable requirements." (Health & Safety Code section 25250.60 (j). emphasis added)

The department added language to allow the marked proof of certification to be a two-part marking system. One part of the marking system is certification mark which is a packaging logo. The other part is an alphanumeric code comprised of the unique identification code and environmental compliance marking placed directly on the brake friction material. During the pre-APA process, stakeholders requested a packaging logo to be included as part of the marked proof of certification. In response to this request, DTSC added language to include a packaging logo that is consistent with the logo used in the State of Washington. This packaging logo allows the public and retail businesses a quick and easy way to identify parts certified as compliant with HSC section 25250.51, 25250.52, and 25250.53. Incorporating the packaging logo as part of the marked proof of certification is considered part of "adopting certification procedures for brake friction materials" under HSC section 25250.60(a). Figure 2 provides an example of the two types of markings described in section 66387.7 of the "marked proof of certification."

Figure 2. Example of the "Marked Proof of Certification"



Section 66387.7(a) clarifies the marked proof of certification is the unique identification code and environmental compliance marking that is marked on the brake friction material, described in SAE J 866:JUL2012, and the certification mark that appears on the brake friction material packaging. These certification marks provide proof that the brake friction material meets the requirements of the statute (HSC §§ 25250.51, 25250.52 or 25250.53).

For packaging, the marked proof of certification is a logo that serves to notify end users that the product is compliant with the statute. The package logo makes it easier to locate the marked proof of certification without the need to open individual packages. Furthermore, a logo is a visual cue that provides the essential information about the compliance of the products with the statute by indicating the concentrations of various regulated constituents and copper in brake friction materials. For example, the Motor and Equipment Manufacturers Association owns the following AASA's Leafmark™ certification mark for packaging shown in Table 2.

Table 2. AASA's Leafmark™ Certification Mark

		
Indicates levels of: asbestos below 0.1%; cadmium below 0.01%; chromium below 0.1%; lead below 0.1%; and mercury below 0.1%.	Indicates levels of asbestos below 0.1%; cadmium below 0.01%; chromium below 0.1%; lead below 0.1%; mercury below 0.1%; and copper below 5.0%.	Indicates levels of asbestos below 0.1%; cadmium below 0.01%; chromium below 0.1%; lead below 0.1%; mercury below 0.1%; and copper below 0.5%.

For brake friction material, the marked proof of certification mark is comprised of the unique identification code and environmental compliance marking. This alphanumeric code identifies the manufacturer and a specific formulation and links to laboratory testing results and self-certification documentation for each formulation on the testing certification agency's website. See Figure 2 for an example. This section is necessary because it instructs the brake friction material manufacturers on the marking convention used for the marked proof of certification and the need for a packaging logo.

The section also makes it clear that DTSC will post the markings issued by the testing certification agency on the Department's website. Although, the self-certification documents will be available on the testing certification agency website, it is important for stakeholders to find the markings found on brake friction material on our public website. This should increase the accessibility of this information to all stakeholders, especially small businesses and consumers that are looking for verification of compliance.

Section 66387.7(a)(1) makes it clear the marked proof of certification meets all the applicable criteria for marking. This section is necessary to have the manufacturers mark brake friction material in a uniform manner so that retailers can identify, purchase, sell, or install compliant brake pads. The marked proof of certification will also provide a tool for enforcement to implement this statute.

Section 66387.7(a)(2) makes it clear the marked proof of certification for the brake friction material is registered with a testing certification agency to be valid. This section is necessary to ensure that all marked proof of certification have been verified by a testing certification agency and are publicly available.

Section 66387.7(a)(3) makes it clear the self-certification documentation submitted to the testing certification agency is available on the testing certification agency's website for the marked proof of certification to be valid. This is necessary to ensure that all marking can be verified on a publicly available website for easy access to confirm compliant product.

This section also makes it clear that DTSC posts the certification marks for packaging issued by an approved testing certification agency on DTSC's website at http://www.dtsc.ca.gov. This is necessary to ensure that all logos used to demonstrate compliance have been vetted as part of the approval process for certification requirements used by the testing certification agency.

Section 66387.7(b) makes it clear that the mark proof of certification cannot be retroactively required. The statute to limit the regulated constituents[18] took effect on January 1, 2014. California, however, did not have these regulations in place to require a specific marking procedure. It is necessary to clarify that the effective date of this marking process is upon adoption of these regulations.

[18] "Regulated constituents" means asbestiform fibers, cadmium and its compounds, chromium (VI)-salts, lead and its compounds, and mercury and its compounds.

Section 66387.7(c) is necessary because it clarifies the manufacturer is responsible for marking brake friction material in a specific manner.

Section 66387.7(c)(1) makes it clear the manufacturer marks their brake friction material in accordance with the SAE J 866:JUL2012. The SAE J 866 protocol includes requirements for marking hot and cold coefficients of friction. This section is necessary because it clarifies the marking convention is outlined in SAE J 866:JUL2012 and that the coefficients of friction listed in the standard are optional.

Section 66387.7(c)(2) makes it clear the manufacturer ensures the unique identification code reported to the testing certification agency is the same as the code marked on brake friction material in accordance with SAE J 866. This section is necessary because the unique identification code used by the manufacturer to mark the brake friction material must be the same as the code used on the certification document submitted to the testing certification agency in order to confirm compliance.

Section 66387.7(c)(3) makes it clear the manufacturer ensures the brake friction material's marked proof of certification includes an unique identification code and the appropriate environmental compliance marking. This section is necessary for the manufacturer to confirm that the correct information is being used by the testing certification agency.

Section 66387.7(c)(4) makes it clear the manufacturer marks its brake friction material with the last two digits of the year the material was manufactured as described in SAE J 866. The section is necessary because the year the brake friction material was manufactured is needed to verify compliance with the three different implementation years. For example, a brake friction material manufactured in 2021 should be marked B21 or N21 and a brake friction material manufactured in 2025 should be marked N25. See section 66387.8 for an explanation of "A," "B," and "N" when used in the environmental compliance marking.

The statute includes various provisions and exemptions that make the year of manufacture crucial information. For example, a brake friction material manufactured in 2013 and marked as A13 can be sold after 2021 even if it does not comply with the 5.0% copper restriction[19] due to a provision in the statute that allows depletion of existing inventories until December 31, 2023[20]. Although the recertification cycle for each certified brake friction material is performed every three years, brake friction

[19] HSC §25250.52
[20] HSC §25250.51(b)

material that is compliant with the 2014 requirements[21] do not need to be recertified prior to 2021.

Section 66387.7(c)(5) makes it clear the manufacturer ensures the marking on the brake friction material is legible. This section is necessary because the brake friction material manufacturers must ensure the marked proof of certification is legible. In order to ensure this, the manufacturers must consider font size, color contrast, and other factors without a prescriptive standard due to the variation in the size and color of the different products.

Section 66387.7(d)(5) makes it clear the manufacturer marks brake friction material packaging with a certification mark that is issued by an approved testing certification agency. This section is necessary because the packaging must be marked with an approved packaging logo to allow the public and retail businesses a quick and easy way to identify parts certified as compliant with HSC section 25250.51, 25250.52, and 25250.53.

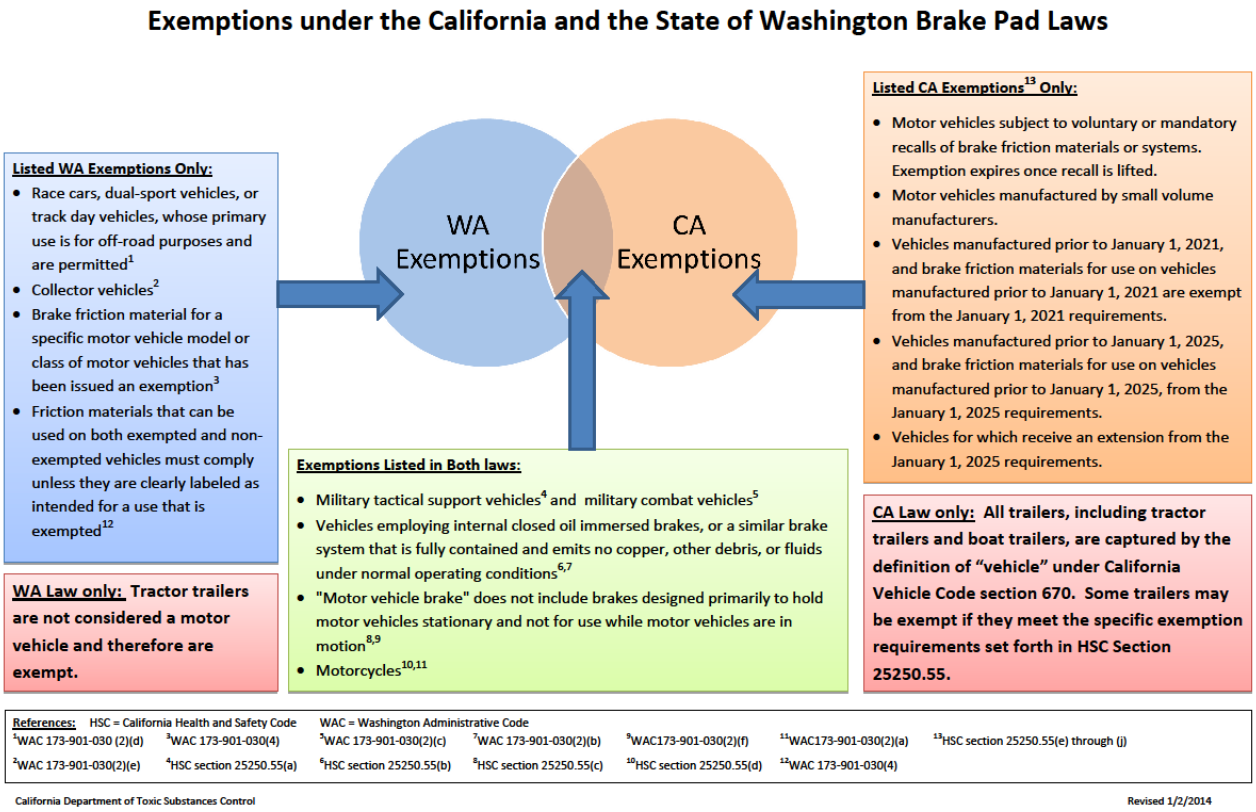
66387.8 Environmental Compliance Marking

This section defines the environmental compliance markings “A,” “B” and “N” that corresponds to the restrictions in Health and Safety Code sections 25250.51, 25250.52, and 25250.53. The environmental compliance marking is part of the marked proof of certification defined in section 66387.7.

DTSC had several discussions with industry stakeholders regarding environmental compliance markings associated with exempted brake friction materials under HSC section 25250.55 and specifically Health and Safety Codes 25250.55(g), (h), and (i). DTSC decided not to include language regarding an exemption mark in this section. When SAE J 866:JUL2012 was modified, the standard did not list an environmental compliance marking for exempt materials since California Health and Safety Code section 25250.55 and the State of Washington statute varied in this area. DTSC cannot adopt the State of Washington exemptions since that is outside the department’s authority. This issue was addressed in the DTSC Responses to Comments on the Informal Draft Regulations dated October 3, 2014. **Figure 3** illustrates the differences on exemptions between the two statutes.

[21] HSC §25250.51(a)

Figure 3. Exemptions under California and the State of Washington Laws



Section 66387.8(a) explains the environmental compliance marking is the last letter marked on brake friction materials followed by the two digit year of manufacture. It must be an "A," "B," or "N and it allows a person to determine the level of environmental compliance of the brake friction material. The environmental compliance marking is part of the marked proof of certification for brake friction material. This section is necessary because this code describes the compliance level associated with the various compliance requirements in the statute. The “A,” “B,” or “N” indicates the content of copper and the regulated constituents, along with their concentrations in a brake friction formulation. Brake friction material marked with an “A,” “B,” or “N” indicates compliance with HSC sections 25250.51, 25250.52, or 25250.53, respectively. It is necessary to also indicate the year of manufacture to determine compliance. All of the following subsections were included for the convenience of the reader.

Section 66387.8(b) is necessary for clarity because it explains an environmental compliance marking "A" indicates that the manufacturer has submitted self-certification

documentation showing the brake friction material does not contain any of the following regulated constituents in amounts exceeding the specified concentrations:

(1) Asbestiform fibers, 0.1% by weight;
(2) Cadmium and its compounds, 0.01% by weight;
(3) Chromium (VI)-salts, 0.1% by weight;
(4) Lead and its compounds, 0.1% by weight; and
(5) Mercury and its compounds, 0.1% by weight.

Section 66387.8(c) is necessary for clarity because it explains the environmental compliance marking "B" indicates that the manufacturer has submitted self-certification documentation showing the brake friction material does not contain any of the constituents listed in subsection (b) of this section in amounts exceeding the specified concentrations and that the brake friction material contains between 0.5 and 5.0% (inclusive) copper by weight.

Section 66387.8(d) is necessary for clarity because it explains that an environmental compliance marking "N" indicates that the manufacturer has submitted self-certification documentation showing the brake friction material does not contain any of the constituents listed in subsection (b) of this section in amounts exceeding the specified concentrations and that the brake friction material contains less than 0.5% copper by weight.

66387.9 Extension Process

This section is to adopt an application process that manufacturers will use to apply for an extension to the January 1, 2025, deadline under Health and Safety Code section 25250.54(a)(1). Health and Safety Code section 25250.54(a)(1) states:

> “On and after January 1, 2019, a ***manufacturer*** may apply to the department for a one-year, two-year, or three-year extension of the January 1, 2025, deadline established in Section 25250.53, except as provided in subdivision (h).” (Health & Safety Code section 25250.54(a)(1) emphasis added.)

The statute also states under Health and Safety Code section 25250.54(h):

> “(1) On or before December 31, 2029, a manufacturer with an approved extension of the January 1, 2025, deadline established in Section 25250.53, may reapply to the department for additional two-year extensions from the deadline in accordance with a schedule that may be established by the department.”

"(2) Except as provided in subdivision(i), a manufacturer may not apply on or after January 1, 2030, for an extension of the January 1, 2025, deadline established in Section 25250.53."
"(3) The department shall comply with all of the requirements of this section when granting an additional extension of the January 1, 2025, deadline pursuant to this subdivision."

As part of this section, DTSC decided to use the terms "brake pad and/or brake drum" in sections 66387.9(a)(1)(B)2(a), (b), and (c). Per Health and Safety Code section 25250.54(a)(2), "An extension application submitted pursuant to this section shall be submitted based on vehicle model, class, platform, or other vehicle-based category, ***and not on the basis of the brake friction material formulation***" (bold and italics added for emphasis). Since "brake pad and/or brake drum" are linked to a specific vehicle model, class, platform, or other vehicle-based category, the term "brake pad and/or brake drum" is used. A brake friction material may be used across several different vehicle models, classes, and platforms and requiring the brand name of the brake friction material would not meet the conditions stipulated in the California statute.

The Brake Friction Material statute allows any manufacturer to apply to DTSC for an extension for the January 1, 2015 deadline to limit copper in brake friction material to less than 0.5%.[22] The manufacturer for the purpose of an extension includes all of the following:

- A brake friction materials manufacturer;
- A manufacturer or assembler of motor vehicles or motor vehicle equipment; or
- An importer of motor vehicles or motor vehicle equipment for resale.

Section 66387.9(a) is necessary for clarity because it sets out the process and information required for the submittal of an extension application to the January 1, 2025.

Section 66387.9(a)(1) is necessary for clarity because it lists all the required information needed on an extension request.

Section 66387.9(a)(1)(A) makes it clear the contact information for the manufacturer submitting an extension application. This section is necessary because it provides the unique identity of the extension applicant and information necessary to correspond with the person.

[22] HSC § 25250.54

Section 66387.9(a)(1)(B) makes it clear the information on the affected vehicles includes the vehicle model, class, platform, or other vehicle-based category. The statute requires that the extension be granted on the basis of this information, and is necessary to implement the extension requests as authorized.

Section 66387.9(a)(1)(B)1 makes it clear the identification of the brake friction material is associated with each vehicle model, class, platform, or other vehicle-based category on the extension application. This is necessary to link the formulation to the use based on vehicle information. The information about whether the brake friction material is intended for use in original equipment or replacement parts is necessary to help assess whether there are alternative formulations which have lower copper content that are being used for similar vehicle types.

Section 66387.9(a)(1)(B)2 makes it clear the identification of the brand names and part numbers for all brake pads and/or brake drums is associated with each vehicle-based category on the extension application.

This section is necessary to identify whether the brake pad and/or brake drum is original equipment or a replacement part because there may be additional justifications as to why an extension is necessary. The original equipment manufacturer (OEM) automobile part is a replacement part made to the same exacting standards and specifications for fit and performance as the original parts used during the manufacturing of the original vehicle. Vehicle manufacturers and brake pads sold in the United States are required by federal law to meet certain safety standards.[23] The original equipment manufacturer's brake pads must meet these safety standards and OEM specifications for replacement parts to ensure similar type, quality, safety, fit, and performance.

Section 66387.9(a)(1)(C) makes it clear the type and length of the initial or renewal extension application be specified. The section is necessary because the statute allows for varying time frames depending on this information.

Section 66387.9(a)(1)(C)1 makes it clear the applicant needs to specify on the extension application whether a one-, two-, or three-year extension is desired. This section is necessary because it determines the length of the extension that will be granted. The length of time will also impact the estimate of the quantity of copper that would be emitted if the extension is granted and affects the determination of the availability of safer alternatives.

[23] Title 49 of the United States Code, Chapter 301, Motor Vehicle Safety

Section 66387.9(a)(1)(C)2 is necessary for clarity because it limits the time for a renewal request to an existing extension to two years in compliance with the statute.[24]

Section 66387.9(a)(1)(D)(1) and (2) directs the extension applicant to submit all the documentation required by statute[25] that supports the need for an extension. These subsections are necessary for clarity because it conveniently provides the reader the required documentation necessary to be eligible for an extension.

Section 66387.9(a)(2) describes the process that the state agencies are required to complete in order to approve an application for an extension. This section is necessary because it clarifies the roles and responsibilities of DTSC, the advisory committee,[26] the State Resources Control Board, the State Air Resources Board, and the California Secretary for Environmental Protection. The advisory committee is a committee of nine members appointed by the Secretary to consider and recommend approval or denial of an application for an extension. The statute provides additional requirements for the duties and responsibilities of this committee.

Section 66387.9(a)(2)(A) is necessary because it clarifies DTSC's role which is to receive and post applications for extensions, solicit comments on the availability on compliant brake friction material, and in consultation with the State Water Resources Control Board and the State Air Resources Board, to determine if the application is sufficient upon which to make a decision. Once an application is determined to be complete, DTSC must forward it to the advisory committee.

Section 66387.9(a)(2)(B) is necessary because it clarifies the advisory committee's role[27] which is to process the application, consider all documentation in the application, hold a public hearing and consider public input, and make a recommendation to the Secretary that the application be approved or not approved.

Section 66387.9(a)(2)(C) is necessary because it clarifies the Secretary's role which is to make the recommended determination available for public review.[28] After consideration of public comments, the Secretary will make the final determination and explain if the Secretary does not follow the advisory committee's recommendation.

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[24] HSC § 25250.54(h)
[25] HSC §§ 25250.54(a)(4) and 25250.54(e)(3)
[26] HSC § 25250.51(a)
[27] HSC §§ 25250.54(d)-(f)
[28] HSC §25250.54(g)

Section 66387.9(a)(3)(A) and (B) is necessary because it allows a manufacturer to submit an application for an extension by either electronic mail or in writing via certified mail. It is also necessary to identify on the subject line or on the envelope the following: "Attention: California Brake Pad Extension Request" in order to ensure timely delivery of the submittal to the proper program within DTSC.

Section 66387.9(a)(4) specifies the types of information that DTSC will post on its website for all extension applications. In order to implement these regulations, making information available to the public, consumers, manufacturers, and other persons in the supply chain is critical. This information will assist the public and consumers to make informed choices regarding consumer products. This required posting is necessary to provide accurate, current, and important information regarding any applications for extensions to the manufacturers, interested parties, and the general public. This information is necessary to engender confidence and facilitate participation in the program. This section does not impose any requirements on manufacturers.

Section 66387.9(a)(4)(A) is necessary for clarity because it requires the applicant to identify the specific entity applying for an extension.

Section 66387.9(a)(4)(B) requires the vehicle model, class, platform, or other vehicle-based category be included. This section is necessary for clarity because the extension will be based on this information in accordance with the statute.[29]

Section 66387.9(a)(4)(C) is necessary for clarity because it requires the brand name of the brake pad and/or brake drum to assist the public and consumers identify the products associated with the approved extension.

Section 66387.9(a)(4)(D) is necessary for clarity because it requires the part number of the brake pad and/or brake drum to assist the public and consumers identify the products associated with the approved extension.

Section 66387.9(a)(4)(E) is necessary for clarity because it requires DTSC to post whether the extension was approved or denied to communicate the results to the manufacturers, the public and consumers in a transparent manner.

Section 66387.9(b) describes the process for a manufacturer to renew an approved extension.[30] The manufacturer must submit a renewal extension application in accordance with section 66387.9(a) and include information on the original extension

[29] HSC §25250.54(a)(2)
[30] HSC §25250.54(h)

along with a description and additional documentation explaining the need for the extension. This information is necessary for DTSC to be able to comply with all the statutory requirements and remain consistent with the statute.

Section 66387.9(c) clarifies that any manufacturer as defined by statute[31] and in section 66387.1(h) of these proposed regulations may apply for an extension. This section is necessary because it reminds the reader that manufacturers other than the producers of brake friction material may participate in the extension process.

Section 66387.9(d) clarifies the authorizing statute mandates that DTSC assess a fee for each application sufficient to cover actual costs incurred in implementing an extension in accordance with the statute.[32] This section is necessary for clarity because it provides the reader with a list of activities associated with processing an extension upon which the fee will be based. Under ISOR sections 66387.9(d)(1) - (7) below, a more detailed discussion of the costs associated with each activity is provided. Most, if not all, of the following costs are for activities required by the statute.

Section 66387.9(d)(1) is necessary for clarity because it includes the cost associated with appointing the advisory committee and the assumption that this cost will be shared by all manufacturers seeking extensions as a basis for the fee. The statute requires that the nine member committee be appointed by the Secretary of CalEPA in consultation with the chair of the State Water Resources Control Board and the Director of DTSC. The work required to establish the advisory committee members will require a request for advisory committee member applicants or nominations, and a review of the applicant's qualifications and financial interest information. The composition of the advisory committee must be as follows:

A. One-third of the members must be representatives of the manufacturers. If the application for an extension pertains solely to brake friction materials to be used on heavy-duty motor vehicles, the members appointed must represent this industry;
B. One-third of the members shall be representatives of municipal storm water quality agencies and non-governmental environmental organizations; and
C. One-third of the members shall be experts in vehicle and braking safety, economics, and other relevant technical areas.

[31] HSC §25250.50(e)
[32] HSC §25250.54(j)

At this time, it is difficult to estimate the amount of work that will be done by CalEPA, State Water Resources Control Board, or DTSC staff.

Section 66387.9(d)(2) is necessary for clarity because it includes the travel cost incurred for each advisory committee meeting held as a basis for the fee. There is no restriction that any of the advisory committee be residents of California. While there is technology available to participate in meetings via telephone conference calls and web - based software, the assumption is travel costs will be incurred for in-person meetings held in California.

Section 66387.9(d)(3) is necessary for clarity because it includes the cost associated for DTSC staff time spent overseeing and coordinating the extensions through the review process, stakeholder comment solicitation,[33] public review process[34] and public hearing(s)[35] as a basis for the fee. The statute has many requirements for public outreach and each activity requires DTSC staff time. For example, the statute requires that all advisory committee meetings are subject to the Bagley-Keen Open Meeting Act. This will trigger additional training and public participation requirements.

Section 66387.9(d)(4) is necessary for clarity because it includes the cost associated with California Air Resources Board staff time to review submitted extension requests[36] as a basis for the fee.

Section 66387.9(d)(5) is necessary for clarity because it includes the cost associated with the State Water Resources Control Board staff time to review submitted extension requests and to consult on the appointment of the advisory committee members[37] as a basis for the fee.

Section 66387.9(d)(6) is necessary for clarity because it includes the cost associated with a 60-day public comment period on the recommendation of the advisory committee[38] as a basis for the fee.

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[33] HSC §25250.54(b),(c), and (f)
[34] HSC §25250.54(b)(3)
[35] HSC §25250.54(d)(3)
[36] HSC §25250.54(b)(2)
[37] HSC §§ 25250.54(b)(2), 25250.54(c), and 25250.50(a)(3)(i) and (ii)
[38] HSC § 25250.54(g)(1)

Section 66387.9(d)(7) is necessary for clarity because if includes the cost associated with the Secretary's time to review, and approve or disapprove a submitted extension request[39] as a basis for the fee.

[39] HSC §§ 25250.54(g)(2) and (3)

Appendix A1
eCFR Keyword Search

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Appendix A2
Westlaw Keyword Search

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