

**Metal Finishing Model
Shop Program
Compliance Assistance &
Pollution Prevention
Seminar**

September 17, 2008

Overview

- Rule specific training required for all Chrome Plating and Chrome Anodizing Facilities
- Required by Rule 1469(c)(12) and ATCM 17 CCR 93102.5(b)
- Every Two Years
- Only Trained and Certified Personnel May Perform Recordkeeping and Surface Tension Functions

Who Must Be Trained?

- Chrome Plating Shop Personnel Responsible For:
 - Environmental Compliance
 - Maintaining Plating Bath Chemistry
 - Testing Plating Bath Surface Tension
 - Recording Plating Batch Surface Tension
- Owner or Operator May Perform These Functions:
 - If All Trained Employees Leave Shop
 - For a Period Not to Exceed 2 Years

Toxicity of Hexavalent Chromium

- One of the Most Potent Carcinogens Listed in Rule 1401
- Cancer Risk to Nearby Receptors of Chrome Plating Facilities was Basis for Rule Amendment
- Sensitive Receptors Have More Stringent Requirements

What is a Sensitive Receptor?

- Segments of the Population Potentially More Sensitive to Air Quality Impacts Than General Population
 - Schools (K–12)
 - Licensed Day-Care Centers
 - Hospitals
 - Convalescent Homes
 - Prisons
 - Private Residences

Rule 1469 Background

- Rule 1469 last amended May 2, 2003
- ATCM changes passed in 2007 to be incorporated into Rule 1469

Air Sparging Prohibition

- Applicable to Hexavalent Chromium Plating or CrO₃ Anodizing Tanks
- Tank May Not be Sparged When Plating is Not Occurring, or While Adding Chromic Acid
- Sparging During Plating Only For Tanks with Permits That Allow it
 - Many Recent Permits Prohibit Sparging During Plating

Existing Rule 1469

Housekeeping Requirements

- Store CrO₃ Powder or Flakes in Closed Container in Enclosed Storage Area
- Transport CrO₃ Powder or Flakes to Tanks in Closed Container
- Contain Spilled Sludge Within One Hour
- Keep Surfaces Within Enclosed Storage Area Clean
- Waste from Housekeeping Activities Must Not Create Fugitive Emissions

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Emission Limit Requirements

- Existing Facilities are required to meet either a 0.01 or 0.0015 mg/amp-hr emission rate based on distances to sensitive receptors and annual permitted amp-hour limits

ATCM Table 93102.4 – Hexavalent Chromium Emission Limitations For Existing Facilities

Sensitive Receptor Distance (meters)	Annual Permitted Ampere-Hours	Emission Limitation (mg/amp-hr)	Effective Date
< 100	< 20,000	0.01	4/24/2008
< 100	> 20,000 and < 200,000	0.0015	10/24/2010
< 100	> 200,000	0.0015	10/24/2009
> 100	< 50,000	0.01	4/24/2008
> 100	> 50,000 and < 500,000	0.0015	10/24/2011
> 100	> 500,000	0.0015	10/24/2009

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Emission Limit Requirements (cont.)

- Modified Facilities with *any* increase in hexavalent chromium emissions are required to meet an emission rate of 0.0015 mg/amp-hr through add-on controls or an approved alternative compliance method

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Emission Limit Requirements (cont.)

- New Facilities:
 - Required to meet an emission rate of 0.0011 mg/amp-hr by HEPA or an approved alternative compliance method
 - Cannot be located within 1000 feet from an area zoned for residential, mixed use, a school, or school under construction

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Performance Test

Demonstrate compliance with new emission rate by:

- New and Modified Facilities – Within 60 days of initial startup.
- Existing Facilities – By applicable effective date in Table 93102.4

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Chemical Fume Suppressants

Chemical Fume Suppressant and Manufacturer	Stalagmometer (dynes/cm)	Tensiometer (dynes/cm)
Benchbrite CR 1800® Benchmark Products	< 40	< 35
Clepo Chrome® MacDermid	< 40	< 35
Fumetrol 140® Atotech U.S.A.	< 40	< 35
HCA-6.2® Hunter Chemical LLC	< 32	< 28
HCA-4® Hunter Chemical LLC	< 32	< 28

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Sensitive Receptor Definition

- Sensitive Receptor definition expanded by inclusion of:
 - Any residence
 - Preschools
 - Retirement and Nursing Homes
 - Prisons
 - Dormitories

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Housekeeping Practices

- Clean at least once every seven days:
 - Open floor area
 - Storage area
 - Walkways around electroplating or anodizing tank(s)
 - Or any surface potentially contaminated with hexavalent chromium or potentially accumulates dust
 - **Housekeeping Records demonstrating compliance**
- Install physical barrier(s) to separate buffing, grinding, or polishing areas within a facility from the electroplating or anodizing operation

Major Changes and Requirements of ATCM Section 93102 Affecting Rule 1469

Housekeeping Practices (cont.)

- Minimize dragout from the tank(s):
 - Facilities with automated lines – install drip trays between tanks so that liquid does not fall through the space between tanks
 - Facilities without automated lines – handle electroplated or anodized parts such that no chromic acid is dripped outside the tank; install splash guard to prevent overspray

PLATING INC.











South Coast
Air Quality Management District



21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 - www.aqmd.gov

DATE: 07-18-06

EQUIPMENT LOCATED AT: 2201 E 51ST ST
LOS ANGELES, CA 90058- 2814

LEGAL OWNER OR OPERATOR CO. ID: 11997
ALL AMERICAN MANUFACTURING CO
2201 E 51ST ST
LOS ANGELES, CA 90058- 2814

PERMIT/APPLICATION RENEWALS

PERMIT/ APPL NBR	EQUIPMENT DESCRIPTION	NEXT RENEWAL DATE
BILLING YEAR :	2006	
408845	WASTE WATER EVAPORATION	07-01-07
D47573	RECLAIMABLE SOLVENTS MULTISTAGE STILL	07-01-07
F54381	TANK, DECORATIVE CHROME PLATING	07-01-07



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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
17880 Central Drive, Diamond Bar, CA 91765
PERMIT TO CONSTRUCT/OPERATE

Permit
Number:
191-01-004

This permit is issued to authorize a PERMITTEE to install and/or operate a permit, as described on the drawings, for the purpose of the permit. This permit is not to be construed as a guarantee of the District's ability to enforce the permit.

Legal Owner
of Operation: TECHNICAL METAL FINISHING CO. INC. 89 7044
340 PACIFIC AVE.
SCARBORN, CA 92586-0286

Equipment Location: 340 PACIFIC AVE, SCARBORN, CA 92586-0286

Equipment Description:

SPRAY BOOTH, FLOOR TYPE, 16'0" W X 8'0" L X 8'0" H, WITH THIRTY-TWO (32) 2" BY 20" PRIMARY EXHAUST FILTERS, THIRTY-TWO (32) 2" BY 20" SECONDARY EXHAUST FILTERS, ONE (1) 4" X 24" HEPA FILTER, AND ONE (1) 20" BY 20" EXHAUST FAN.

Conditions:

- OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- THIS SPRAY BOOTH SHALL NOT BE OPERATED UNLESS ALL EXHAUST AIR PASSES THROUGH FILTER MEDIA AT LEAST 12 INCHES THICK.
- A GAUGE SHALL BE INSTALLED AND MAINTAINED TO INDICATE IN INCHES OF WATER, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE PRIMARY AND SECONDARY EXHAUST FILTERS. IN OPERATION, THIS PRESSURE DIFFERENTIAL SHALL NOT EXCEED 1.25 INCHES OF WATER.
- A GAUGE SHALL BE INSTALLED AND MAINTAINED TO INDICATE IN INCHES OF WATER, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE FINAL HEPA EXHAUST FILTERS. IN OPERATION, THIS PRESSURE DIFFERENTIAL SHALL NOT EXCEED 1.5 INCHES OF WATER.
- THE TOTAL QUANTITY OF VOLATILE ORGANIC COMPOUND (VOC) EMITTED AND DISCHARGED TO THE ATMOSPHERE FROM THIS EQUIPMENT SHALL NOT EXCEED 27 POUNDS IN ANY ONE DAY.
- THE TOTAL QUANTITY OF COAGULANT AND SOLVENTS APPLIED WITHIN THIS EQUIPMENT, AND SUBJECT TO DISTRICT RULE 118, SHALL NOT EXCEED 1 GALLON IN ANY ONE DAY.
- THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 402.118, 402.119 AND 408.1.

ORIGINAL



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3. THE OPERATOR SHALL BE RESPONSIBLE FOR THE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION OF THE EQUIPMENT TO MAINTAIN A CAPTURE EFFICIENCY OF NOT LESS THAN 90%.

6. MATERIALS USED IN THIS EQUIPMENT SHALL NOT CONTAIN ANY COMPOUNDS, ICS, CONTAMINANTS DESCRIBED IN 402.118, TABLE 1 WITH AN APPROXIMATE DENSITY OF 10 LBS./GAL. OR DENSER, WITH THE EXCEPTION OF SOLVENTS OR COMPOUNDS AS SPECIFIED IN COMBUSTIBLE GAS NO. 170 AND COMBUSTIBLE GAS NO. 170A, OR COMBUSTIBLE LIQUID NO. 11 BELOW. NORMAL DENSITY CAN BE 10 LBS./GAL. AND 1.0 GPM/INCHES AND HEAVY COMPOUNDS.

11. THE TOTAL QUANTITY OF VOLATILE ORGANIC COMPOUND (VOC) EMITTED TO THE ATMOSPHERE FROM THE USE OF COAGULANT AND SOLVENTS DISCHARGED TO THIS EQUIPMENT SHALL NOT EXCEED 27 POUNDS IN ANY ONE CALENDAR YEAR.

12. THE HEPA EXHAUST SYSTEM SHALL BE MAINTAINED UNDER THE FOLLOWING FORMULA, AND THE FOLLOWING OPERATING CONDITIONS:

HEPA EXHAUST SYSTEM - (SPACING OF COMBUSTIBLE GAS) MATERIALS	DESIGN	MINIMUM	MAXIMUM
COAGULANT	100-1000	0.200	0.200
SOLVENT	1000-10000	0.200	0.200
LIQUID	100-1000	0.200	0.200
SOLVENT	1000-10000	0.200	0.200

13. THE NORMAL DENSITY CAN BE 10 LBS./GAL. COMBUSTIBLE GAS IN THIS EQUIPMENT SHALL NOT EXCEED 1%.

14. MATERIAL SAFETY DATA SHEETS FOR ALL CONTROLS, SOLVENTS AND OTHER VOC COMPOUNDS MATERIALS USED IN THIS EQUIPMENT AND SUBJECT TO DISTRICT RULES SHALL BE KEPT CURRENT, AND SHALL BE MADE AVAILABLE TO ANY DISTRICT REPRESENTATIVE UPON REQUEST.

15. THE OPERATOR SHALL KEEP ADEQUATE RECORDS TO VERIFY CALCULATED ANNUAL EMISSIONS OF VOLATILE ORGANIC COMPOUND TO THE ATMOSPHERE AND COMPLY WITH DISTRICT RULE 402.118.

16. IN ADDITION TO THE RECORDS KEPT AS DESCRIBED IN RULE 402.118, THE OPERATOR SHALL KEEP ADEQUATE RECORDS IN THIS EQUIPMENT TO VERIFY THAT THE OPERATOR IS KEEPING THE VOC CONTENT OF EACH MATERIAL AND SOLVENT DISCHARGED TO THIS EQUIPMENT AND THE VOC CONTENT SHALL BE PREPARED IN A FORM THAT IS ACCESSIBLE TO THE DISTRICT, SHALL BE KEPT AVAILABLE TO THE DISTRICT FOR AT LEAST TWO YEARS, AND SHALL BE MADE AVAILABLE TO ANY DISTRICT REPRESENTATIVE UPON REQUEST.

ORIGINAL



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11. THIS PERMIT SHALL COVER THE CONSTRUCTION OF THIS EQUIPMENT TO BE COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT. FAILURE OF EMISSIONS TO EXCEED BY THE DISTRICT'S OFFICE.

IN ACCORDANCE WITH RULE 402, THIS PERMIT IS ISSUED TO THE PERMITTEE UNDER A PERMIT NUMBER OF 191-01-004. THIS PERMIT SHALL NOT BE TRANSFERRED TO ANY OTHER PARTY. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE OF THE EQUIPMENT AND SHALL BE KEPT CURRENT, AND SHALL BE MADE AVAILABLE TO ANY DISTRICT REPRESENTATIVE UPON REQUEST.

APPROVED OFFICER:
Ann G. Kelly
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ORIGINAL

Insufficient Polyball Coverage



Polyballs Displaced
During Plating
Operation











LOAD CABINET
#1
ONLY WITH
ALUMINUM
OXIDE - BLAST
MEDIA
(GRI 4-100
OR FINE)



Smoke Tube Test





W. C. C. 1015
10/10/05

W. C. C. 1015
10/10/05

W. C. C. 1015
10/10/05

Housekeeping Equipment



Chromic Acid Flakes





Note discharge from leak in ducting



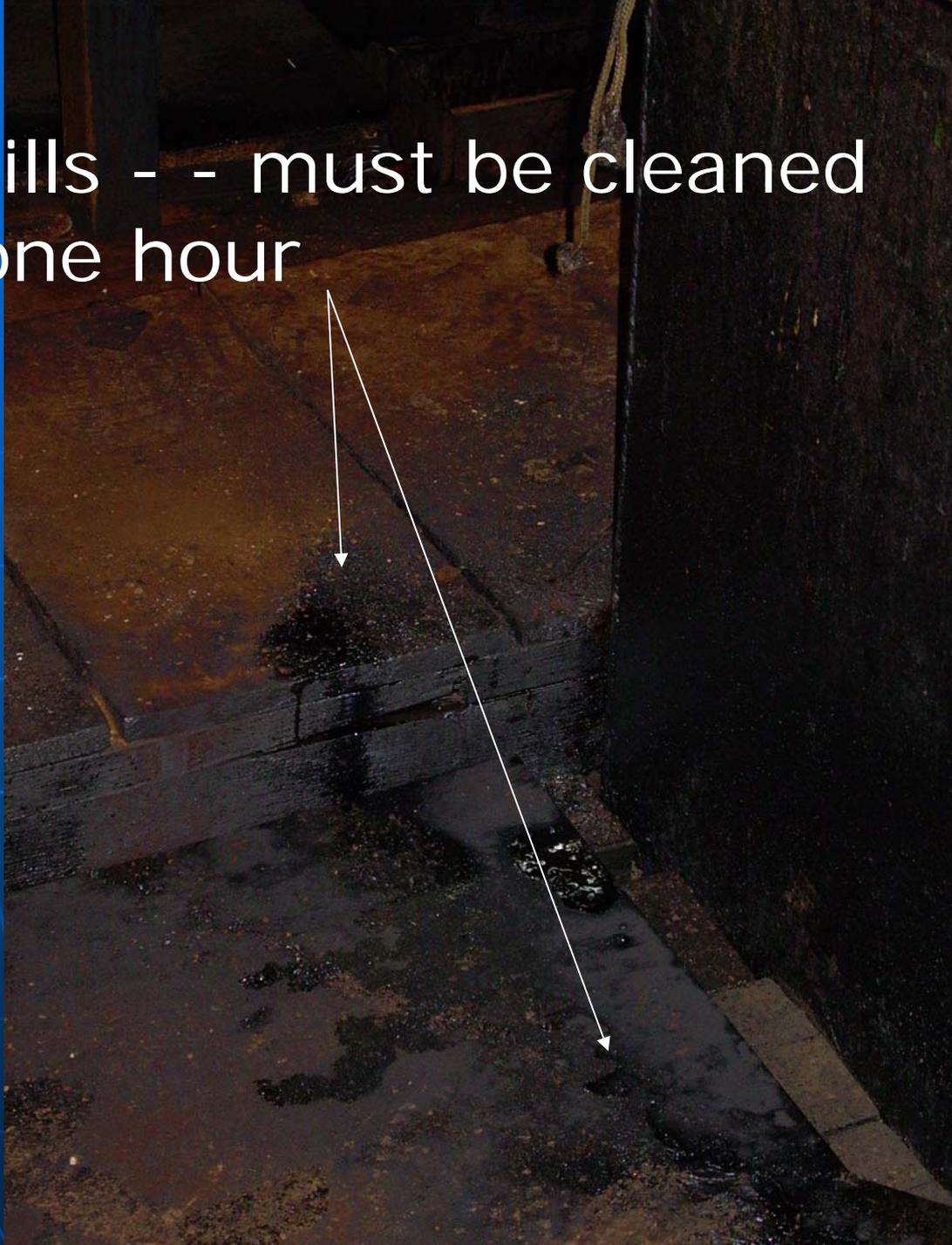


Note discharge from leak in ducting





Note spills - - must be cleaned within one hour



Note discharge from leak in ducting



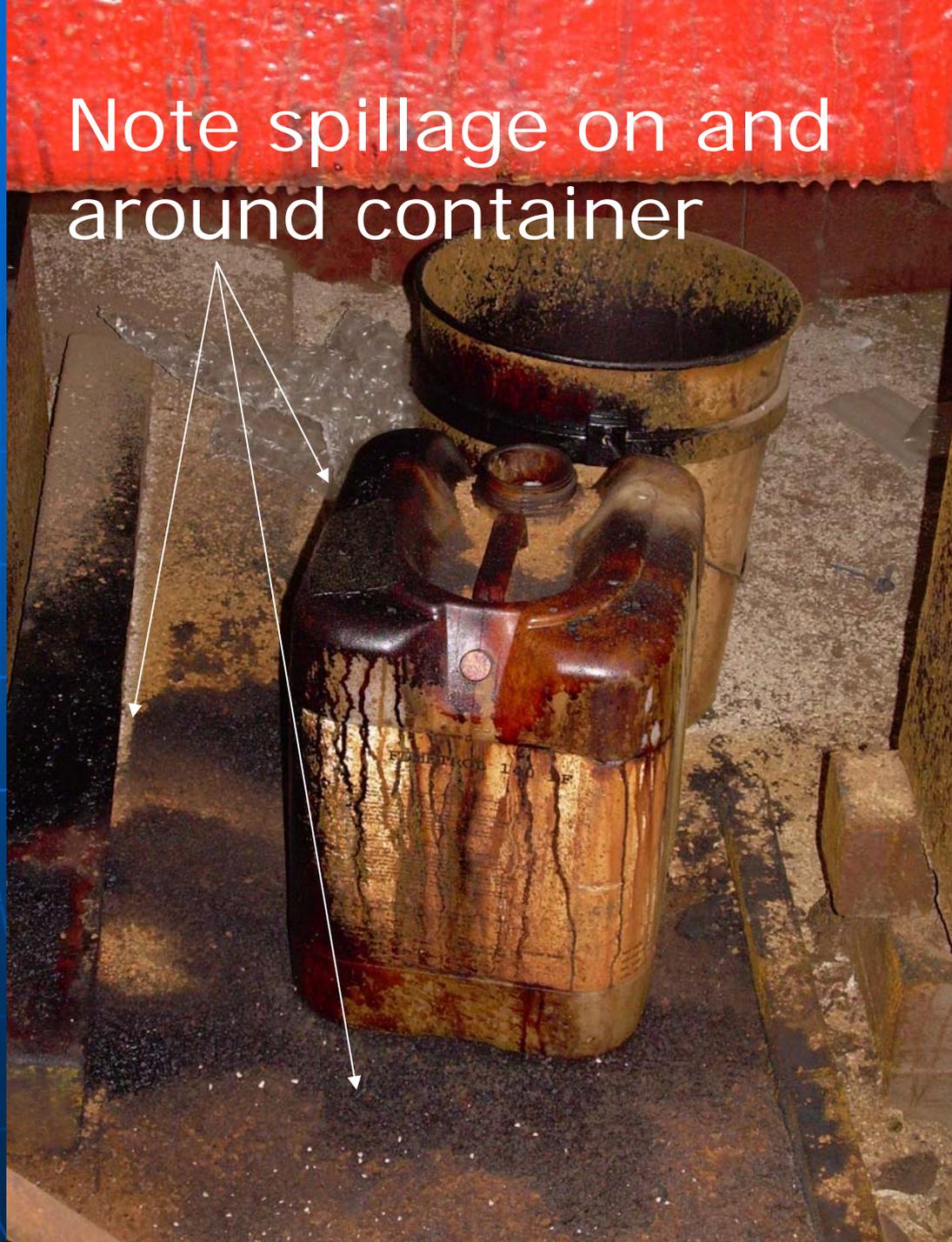
A photograph of a large, red-painted industrial machine, possibly a lathe or mill, in a workshop. The machine has a prominent vertical red column and a horizontal red base. A blue corrugated metal tray is placed on top of the horizontal base. Below the machine, a grey plastic spill tray is positioned on the floor, containing a dark, oily substance and a piece of paper. A white arrow points from the text to the spill tray. The background shows a workshop environment with a fan, windows, and various tools.

Note tray to capture spills

Note bucket to capture spills



Note spillage on and around container



Note spillage on surface of tank - - MUST be wiped down within one hour of spillage, cleaned once every seven days

