



California Steel Industries, Inc.

1 California Steel Way; P.O. Box 5080
Fontana Ca. 92335
(909) 350-6300

Dear Customer:

In compliance with state Right-To-Know (RTK) laws, and the OSHA's Hazard Communication Standard which became effective November 25, 1995, we are providing you with a current, updated Material Safety Data Sheet (MSDS) for the product as you have requested from our website.

Each MSDS file includes the product MSDS produced by CSI, and is followed by applicable MSDSs from third party providers, such as treatments or coating oil. As different treatments may have been used on galvanized products, please contact your Sales representative if detailed information is required.

As it may be necessary for us to revise the MSDS to reflect changes affecting the health hazard information or changes in regulations, you should routinely update any information from our website.

Please check applicable state/federal regulations for information on your responsibility for retention and availability of these forms.

Sincerely,

Brad W. Bray
Manager, Safety & Plant Protection



GALVANIZED CARBON AND HIGH STRENGTH – LOW ALLOY STEEL (HOT DIPPED)

Material Safety Data Sheet

For Emergency Call:
California Steel Industries, Inc. (909) 350-6296

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Galvanized Carbon and High Strength – Low Alloy Steel (Hot Dipped)
CAS Number: 65997-19-5
Chemical Name: Galvanized Steel
Chemical Family: Carbon Steel Alloy

Company Identification

Manufacturer's Name: California Steel Industries, Inc.
Address: 14000 San Bernardino Ave., Fontana, California 92335
Telephone – General Information: (909) 350-6284

2. COMPOSITION/INFORMATION ON INGREDIENTS

Table with 3 columns: Components, Typical Weight Percentage, CAS Number. Rows include Base metal & Residuals (Iron, Manganese, Silicon, Carbon, Copper, Nickel, Chromium, Aluminum, Molybdenum, Columbium, Sulfur, Phosphorus, Tin, Nitrogen, Vanadium, Titanium).

Table with 3 columns: Components, Typical Weight Percentage, CAS Number. Rows include Coating Materials (Zinc, Aluminum, Lead).



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3. HAZARDS IDENTIFICATION

Emergency Overview

Avoid contact with eyes. Wash thoroughly after handling.

Odorless, metallic gray solid.

Potential Health Effects:

Note: Steel products, under normal conditions, do not present an inhalation, ingestion or skin hazard. However, operations such as welding, grinding, sawing, and burning, which may cause airborne particulates or fume formation, may present a health hazard.

Eyes: Contact with dusts or particulates produced by cutting, welding or grinding may be abrasive and irritating to the eyes and cause stinging, watering, and redness.

Skin: Contact with dusts or particulates produced by cutting, welding or grinding may be abrasive and mildly irritating to the skin. Particulates may cause a red-brown pigmentation of the skin following repeated exposure. No harmful effects from skin absorption are expected.

Inhalation (Breathing): No LC50 toxicity data available for the product. Dusts or particulates produced by cutting, welding or grinding are expected to have a low degree of toxicity by inhalation.

Ingestion (Swallowing): No LD50 toxicity data available for the product. Dusts or particulates produced by cutting, welding or grinding are not known to be toxic.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat and digestive tract.

Cancer: No information available on the cancer hazard of this material. However, a component has been identified as a cancer hazard (see Section 11).

Target Organs: A component of this product is a potential hazard to the male reproductive system (see Section 11).

Developmental: No data available.

Other Comments: Chronic exposure to manganese may result in a central nervous system disorder (manganism). Symptoms may include confusion, bizarre behavior, visual hallucinations, difficulty with speech and movement, tremor, loss of balance, decreased libido and impotence.

Chronic exposure to high concentrations of iron have been associated with hemosiderosis, hemochromatosis and in severe cases, liver cirrhosis. Typical occupational exposures to iron compounds are not expected to cause these effects. Chronic inhalation can produce "mottling" of the lungs (siderosis). This is considered a benign pneumoconiosis and does not normally lead to fibrosis or cause significant physiologic impairment.



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Metal fume fever is a brief, self-limited illness characterized by fever, chills, aching muscles, sweating, nausea, vomiting, and coughing. Symptoms typically occur several hours after exposure to metal oxide fumes and subside within 24-48 hours.

This material / product contains chemicals known to the State of California to cause cancer and/or reproductive toxicity (see sections 11 and 15).

Medical Conditions Aggravated by Exposure: Conditions aggravated by exposure may include skin disorders, respiratory (asthma-like) and male reproductive disorders.

4. FIRST AID

Eyes: If irritation or redness develops from dust exposure, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: First aid is not normally required. However, it is good practice to wash any material from the skin.

Inhalation: First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention

Ingestion: First aid is not normally required; however, if dust is swallowed and symptoms develop, seek medical attention.

5. FIRE FIGHTING MEASURES

Flash Point (test method): Not applicable

Flammable Limits: Not applicable

Explosive Limits: Not applicable

Autoignition Temperature: Not applicable

Extinguishing Media: For fires involving powder or dust, use dry chemicals, sand, earth, water spray or regular foam.

NFPA Fire Rating: Health Hazard	1
Flammability	0
Reactivity	0

Key: Least = 0, Slight = 1, Moderate = 2, High = 3, Extreme = 4

Special Firefighting Procedures: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk.



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Unusual Fire and Explosive Hazards: No unusual fire or explosive hazards are expected. However, dust powder or fumes are flammable or explosive when exposed to heat or flames

6. ACCIDENTAL RELEASE MEASURES

In case of dust release, stay upwind and away from spill. Notify persons down wind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Notify appropriate federal, state, and local agencies. Sweep up and package appropriately for disposal.

7. HANDLING AND STORAGE

Handling: The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.

Storage: Keep away from any incompatible material (see Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: If current ventilation practices are not adequate to maintain airborne dust concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

Specific Personal Protective Equipment

Eyes: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Skin: Not required based on the hazards of the material. However, it is considered good practice to wear gloves when handling chemicals.

Respiratory: A NIOSH/MSHA approved air purifying respirator with a type 95 particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see below). Protection provided by air-purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Other: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn.



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Exposure Guidelines

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Nuisance particulates, if generated	10 mg/m ³ - total 3 mg/m ³ - respirable	None	15 mg/m ³ total 5 mg/m ³ respirable	None
Chromium	0.5 mg/m ³	None	1 mg/m ³	0.5 mg/m ³
Iron (oxide dust & fume)	5 mg/m ³	None	10 mg/m ³	None
Manganese	0.2 mg/m ³	None	None	5 mg/m ³ (CEIL)
Nickel	1.5 mg/m ³ 0.2 mg/m ³ (insol)	None	1 mg/m ³	None
Zinc (Oxide)	5 mg/m ³ (fume) 10 mg/m ³ (dust)	10 mg/m ³ (fume)	5 mg/m ³ (fume) 15 mg/m ³ (oxide) tot. 5 mg/m ³ (oxide) resp	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Metallic gray

Odor: Odorless

Odor threshold level: Not applicable

Physical state: Solid

pH: Not applicable

Vapor pressure (mmHg and temp): Not applicable

Vapor density (air = 1): Not applicable

Boiling point (at 1 atm): Not applicable

Melting point: Base material 2750°F; Coating 750°F

Solubility in water: Insoluble

Specific gravity (H₂O = 1): 7.85

Evaporation rate (butyl acetate = 1): Not applicable

10. STABILITY AND REACTIVITY

Stability (thermal, light, etc.): Stable under normal conditions of storage and handling.

Conditions to Avoid: Storage near strong oxidizers.

Incompatibility (materials to avoid): Avoid contact with strong oxidizers.



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Hazardous Decomposition Products: Thermal decomposition may release hazardous metal fumes.

Hazardous Polymerization: Not applicable

11. TOXICOLOGICAL INFORMATION

Manganese CAS# 7439-96-5

Repeated administration of manganese resulted in limited evidence of male reproductive effects in laboratory animals. The adverse effects included decreased spermatids, spermatocytes and degeneration of seminiferous tubules. Chronic administration of certain inorganic manganese salts has resulted in limited evidence of central nervous system effects in laboratory animals. The effects included degenerative changes in basal ganglionic cells.

Nickel CAS# 7440-02-0

There is sufficient evidence in animals for the carcinogenicity of metallic nickel, nickel monoxides, nickel hydroxides and crystalline nickel sulfides, and limited evidence in animals for other nickel compounds (e.g., alloys, arsenides and nickel carbonyl). Occupational exposure has been associated with cancer of the lung and nasal cavity. Nickel and nickel compounds have been identified as carcinogens by NTP and IARC.

Welding Fumes

Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen. There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxicants.

This material / product contains chemicals known to the State of California to cause cancer and/or reproductive toxicity that may be released during welding (see section 15).

12. ECOLOGICAL INFORMATION

No ecological data are available.

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" or "characteristic" hazardous waste. Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

14. TRANSPORT INFORMATION

DOT/TC/IMO/UN Proper Shipping Name: Not regulated
DOT/TC/IMO/UN Identification Number: Not applicable
DOT/IMO/UN Classification: Not regulated



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15. REGULATORY INFORMATION

OSHA (Occupational Safety and Health Administration): This material is considered to be non-hazardous as defined by the OSHA Hazard Communication Standard. However, dusts and fumes from this product may be hazardous as identified in Sections 3 and 11.

Component	TSCA Inventory	DSL	SARA 313 (Deminimus)	SARA 302	SARA 304	CERCLA RQ	CAA 112(r)	CA Prop 65
Aluminum	X	X	X (1%)	---	---	---	---	---
Carbon	X	X	---	---	---	---	---	---
Chromium	X	X	X (1%)	---	X	5000	---	X
Columbium	X	X	---	---	---	---	---	---
Copper	X	X	X (1%)	---	X	5000	---	---
Iron	X	X	---	---	---	---	---	---
Lead	X	X	X (NA*)	---	X	10	---	X
Manganese	X	X	X (1%)	---	---	---	---	---
Molybdenum	X	X	---	---	---	---	---	---
Nickel	X	X	X (0.1%)	---	X	100	---	X
Nitrogen	X	X	---	---	---	---	---	---
Phosphorous	X	X	X (1%)	X	X	1	---	---
Silicon	X	X	---	---	---	---	---	---
Sulfur	X	X	---	---	---	---	---	---
Tin	X	X	---	---	---	---	---	---
Titanium	X	X	---	---	---	---	---	---
Vanadium	X	X	X (1%)	---	---	---	---	---
Zinc	X	X	X (1%)	---	X	1000	---	---

*NA = Not applicable

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Warning: This material / product contains chemicals (as listed above) known to the State of California to cause cancer, and birth defects or other reproductive harm.

Sections 311/312: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of SARA Title III and is considered, under applicable definitions, to meet the following categories:

Acute: No Chronic: Yes Fire: No Reactivity: No

This material has not been identified as a carcinogen by NTP, IARC or OSHA.



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NOTIFICATION PURSUANT TO EPCRA, 40 CFR PART 372.45

This material contains toxic chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372. The following chemicals contained in this material are subject to the reporting requirements of Section 313:

Chemical	CAS Number	Typical Weight Percentage
Aluminum	7429-90-5	0.08 max
Chromium	7440-47-3	0.10 max
Copper	7440-50-8	0.35 max
Lead	7439-92-1	0.015 – 0.025
Manganese	7439-96-5	0.10-1.25
Nickel	7440-02-0	0.10 max
Phosphorus	7723-14-0	0.025 max
Vanadium	7440-62-2	0.08 max
Zinc	7440-66-6	>99

16. Documentary Information and DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Issue Date: September 26, 2007

Previous Issue Date: April 4, 2006

This product may be treated with a surface passivation material. Hazards associated with exposure to the surface passivation treatment are not covered on this MSDS. An accompanying MSDS specific to the hazards associated with the surface passivation treatment must be used with this MSDS. If the surface passivation treatment MSDS is not included with this MSDS, contact California Steel Industries, Inc. for a copy of the MSDS.

The information in this document is believed to be correct as of the date issued. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for this particular purpose and on the condition that he assume the risk of his use thereof.

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Revision Date 10/02/2007

Print Date 10/02/2007

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Gardo® TP 10606/7
 MSDS Number : REL_11211

Company : OAKITE PRODUCTS INC
 675 Central Avenue
 New Providence, NJ 07974

Telephone : +18005264473
 Telefax : +19084644658
 Emergency telephone no : CHEMTREC - 800-424-9300

SECTION 2. HAZARDOUS COMPONENTS INFORMATION

Component	CAS-No.	Weight %
Chromium (III) phosphate	7789-04-0	10.00 - 20.00
Chromium (III) Trifluoride	7788-97-8	1.00 - 5.00
Hydrofluoric Acid	7664-39-3	1.00 - 5.00

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

SECTION 3. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid
 Colour : green
 Odour : acrid
 Hazard Summary : Causes severe burns. Liquid or vapor causes burns which may be delayed. Also harmful by inhalation and if swallowed.

Route(s) of Entry	Inhalation	Skin	Ingestion
	yes	yes	yes

Carcinogenicity:

NTP No substance in this product is listed by NTP as a carcinogen
 IARC No substance in this product is listed by IARC as a carcinogen
 OSHA No substance in this product is regulated by OSHA as a carcinogen

SECTION 4. FIRST AID MEASURES

Inhalation : If inhaled, remove to fresh air. If symptoms persist, call a

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	physician If breathing is irregular or stopped, administer artificial respiration
Skin contact	: Wash off immediately with plenty of water for at least 15 minutes Pay particular attention to skin under nails. Take off contaminated clothing and shoes immediately Get medical attention immediately if irritation develops and persists
Eye contact	: Rinse immediately with plenty of water for at least 15 minutes Keep eye wide open while rinsing Get medical attention immediately
Ingestion	: Rinse mouth Give several glasses of water to drink followed by milk of magnesia. Never give anything by mouth to an unconscious person Get medical attention immediately

SECTION 5. FIRE-FIGHTING MEASURES

Flash point	: Note: does not flash
Lower explosion limit	: Note: not applicable
Upper explosion limit	: Note: not applicable
Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters	: Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up	: Clean up with inert absorbant material. Cover with dry sodium carbonate. Keep in suitable, closed containers for disposal.
Additional advice	: Never return spills in original containers for re-use.

SECTION 7. HANDLING AND STORAGE**Storage**

Requirements for storage areas and containers	: KEEP FROM FREEZING Keep containers tightly closed in a cool, well-ventilated place.
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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	ACGIH TLV (TWA)	OSHA PEL (TWA)
Chromium (III) phosphate	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.
Chromium (III) Trifluoride	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.
Hydrofluoric Acid	2.3 mg/m ³ ceilingN.D.	3 ppm N.D.

- Eye protection : Chemical resistant goggles must be worn.
face-shield
- Hand protection : impervious gloves
- Skin and body protection : complete suit protecting against chemicals
- Respiratory protection : If the occupational exposure limits cannot be met, suitable respiratory equipment should be worn .
- Hygiene measures : Avoid contact with skin, eyes and clothing
Wear suitable gloves and eye/face protection
Wear suitable protective clothing
Wash hands before breaks and immediately after handling the product
Provide adequate ventilation
Do not inhale fumes
Keep away from food and drink

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- pH : < 2.5
- Melting point/range : 0 °C (0 °C)
- Boiling point/range : Note: no data available
- Vapour pressure : Note: no data available
- Bulk density : 10.27 lb/gal
- Water solubility : Note: completely soluble

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Partition coefficient (n-octanol/water) : Note: no data available

Percent of Volatile by Weight excluding water : 0

Relative density : 1.231

Evaporation rate : 1
Note: Water = 1

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : freezing

Materials to avoid : bases
Warning! Do not use together with other products; may release dangerous gases (chlorine).
Avoid prolonged contact of concentrate with glass, ceramic, or concrete.

Hazardous decomposition products : Acidic fumes
hydrogen fluoride
oxides of phosphorus
hydrogen, by reaction with metals

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity: : Mixture; Not Determined.

Acute toxicity (other route)Hydrofluoric Acid : LD50, rat, Intraperitoneal
Dose: 25 mg/kg**SECTION 12. ECOLOGICAL INFORMATION**

Not Available

SECTION 13. DISPOSAL CONSIDERATIONS

Advice on Disposal : Refer to all federal, provincial, state and local regulation prior to disposition of container and unused contents by reuse, recycle or disposal.

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SECTION 14. TRANSPORT INFORMATION

Refer to Bill of Lading.

SECTION 15. REGULATORY INFORMATION

TSCA Status	:	All components of this material comply with US TSCA requirements.	
SARA 313 Components	:	Chromium (III) phosphate	CAS-No. 7789-04-0
	:	Chromium (III) Trifluoride	CAS-No. 7788-97-8
SARA 313 Components	:	Hydrofluoric Acid	CAS-No. 7664-39-3
	:	N.D.	
CERCLA Reportable Quantity	:	Chromium (III) phosphate	10 Pounds
	:	Chromium (III) Trifluoride	10 Pounds
	:	Hydrofluoric Acid	100 Pounds
California Prop. 65	:	N.D	
NFPA	:	3 0 0 Corrosive Acid	
HMIS	:	3 0 0 J	
WHMIS	:	E: Corrosive Material	

SECTION 16. OTHER INFORMATION

Further information

Oakite Products, Inc. warrants that the products described herein will conform with its published specifications. The products supplied by Oakite and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Oakite materials for their own particular purpose. Since buyer's conditions of use of products are beyond Oakite's control, Oakite does not warrant any recommendations and information for the use of such products. OAKITE DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Okemcoat® F-2
 MSDS Number : REL_4662

Company : OAKITE PRODUCTS INC
 675 Central Avenue
 New Providence, NJ 07974

Telephone : +18005264473
 Telefax : +19084644658
 Emergency telephone no : CHEMTREC - 800-424-9300

SECTION 2. HAZARDOUS COMPONENTS INFORMATION

Component	CAS-No.	Weight %
Trade Secret Registry	735517-5038P	1.00 - 5.00
Chromic (VI) Acid	1333-82-0	5.00 - 10.00
Nitric acid	7697-37-2	1.00 - 5.00
Chromium (III) phosphate	7789-04-0	1.00 - 10.00

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

SECTION 3. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid
 Colour : greenish-blue
 Odour : acrid
 Hazard Summary : Causes severe burns. Also harmful by inhalation and if swallowed. May cause cancer.

Route(s) of Entry	Inhalation	Skin	Ingestion
	yes	yes	yes

Carcinogenicity:

NTP Chromic (VI) Acid This substance is listed by NTP as a Carcinogen.
 Chromium (III) phosphate This substance is listed by NTP as a Carcinogen.

IARC Chromic (VI) Acid This substance is listed by IARC as a Carcinogen.
 Chromium (III) phosphate This substance is listed by IARC as a Carcinogen.

OSHA No substance in this product is regulated by OSHA as a carcinogen

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SECTION 4. FIRST AID MEASURES

- Inhalation : Move to fresh air If symptoms persist, call a physician If breathing is irregular or stopped, administer artificial respiration
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes Take off contaminated clothing and shoes immediately Call a physician if irritation develops or persists.
- Eye contact : Rinse immediately with plenty of water for at least 15 minutes Keep eye wide open while rinsing Get medical attention immediately
- Ingestion : Rinse mouth Drink 1 or 2 glasses of water Never give anything by mouth to an unconscious person Get medical attention immediately

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : Note: does not flash
- Lower explosion limit : Note: not applicable
- Upper explosion limit : Note: Not applicable.
- TDG Flammability Class : NONE
- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Methods for cleaning up : Cover with dry sodium carbonate. Clean up promptly by scoop or vacuum. Flush with water.
- Additional advice : Never return spills in original containers for re-use.

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SECTION 7. HANDLING AND STORAGE**Handling**

Handling : Unscrew closure slowly. Allow all pressure to escape through threads before removing closure

Storage

Requirements for storage areas and containers : Keep containers tightly closed to avoid contamination
Store indoors in a cool, well-ventilated place
Keep container out of sun and away from heat.
Keep container closed to prevent drying out.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	ACGIH TLV (TWA)	OSHA PEL (TWA)
Trade Secret Registry	N.D.	80 mg/m ³ N.D.
Chromic (VI) Acid	0.05 mg/m ³ as CrN.D.	0.005 mg/m ³ as CrN.D.
Nitric acid	5.2 mg/m ³ N.D.	5 mg/m ³ N.D.
Chromium (III) phosphate	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.

Eye protection : Chemical resistant goggles must be worn.

Hand protection : Neoprene gloves

Skin and body protection : complete suit protecting against chemicals

Respiratory protection : Use NIOSH approved respiratory protection.

Hygiene measures : Avoid contact with skin, eyes and clothing
Wear suitable gloves and eye/face protection
Wear suitable protective clothing
Wash hands before breaks and immediately after handling the product
Provide adequate ventilation
Do not inhale fumes
Keep away from food and drink

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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pH	:	< 2.5
Melting point/range	:	-8.3 °C (-8.3 °C)
Boiling point/range	:	Note: no data available
Vapour pressure	:	Note: no data available
Bulk density	:	9.46 lb/gal
Water solubility	:	Note: completely soluble
Partition coefficient (n-octanol/water)	:	Note: no data available
Percent of Volatile by Weight excluding water	:	0
Relative density	:	1.136
Evaporation rate	:	1 Note: Water = 1

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	Avoid letting the product become dry. freezing
Materials to avoid	:	bases reducing agents combustible material organic materials Warning! Do not use together with other products; may release dangerous gases (chlorine).
Hazardous decomposition products	:	chromium oxides nitrogen oxides (NO _x) oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity:	:	Mixture; Not Determined.
Acute oral toxicity Chromic (VI) Acid	:	LD50, rat Dose: 52 mg/kg

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SECTION 12. ECOLOGICAL INFORMATION

Not Available

SECTION 13. DISPOSAL CONSIDERATIONS

Advice on Disposal : Refer to applicable local, state and federal regulations as well as industry standards.

SECTION 14. TRANSPORT INFORMATION

Refer to Bill of Lading.

SECTION 15. REGULATORY INFORMATION

TSCA Status	:	All components of this material are on the US TSCA Inventory.	
SARA 313 Components	:	Chromic (VI) Acid	CAS-No. 1333-82-0
	:	Nitric acid	CAS-No. 7697-37-2
	:	Chromium (III) phosphate	CAS-No. 7789-04-0
SARA 313 Components	:	N.D.	
CERCLA Reportable Quantity	:	Chromic (VI) Acid	10 Pounds
	:	Nitric acid	1,000 Pounds
	:	Chromium (III) phosphate	10 Pounds
California Prop. 65	:	N.D.	
NFPA	:	3 0 1 Corrosive Acid	
HMIS	:	3 0 1 J	
WHMIS	:	D2A: Very Toxic Material Causing Other Toxic Effects E: Corrosive Material	

SECTION 16. OTHER INFORMATION

Further information

Okemcoat® F-2

Version 1.4
Revision Date 11/28/2006

Print Date 01/22/2007

Oakite Products, Inc. warrants that the products described herein will conform with its published specifications. The products supplied by Oakite and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Oakite materials for their own particular purpose. Since buyer's conditions of use of products are beyond Oakite's control, Oakite does not warrant any recommendations and information for the use of such products. OAKITE DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name BONDERITE® 6010

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
13548-38-4	Chromium nitrate	10-30
7789-04-0	Chromium phosphate	5-10
7664-38-2	Phosphoric acid	5-10

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Chromium compounds, Nitrate compounds, Chromium, inorganic compounds, Chromium, inorganic compounds, Chromium compounds, Phosphorus compounds, inorganic.

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER -- CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Ingestion:

Ingestion of corrosive acids may result in moderately severe burns to mouth and esophagus with more severe burns and damage to the stomach.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Skin Contact:

Immediately flush with large quantities of water for at least 15 minutes. Remove contaminated clothing. GET MEDICAL ATTENTION.

Ingestion:

If the material is swallowed, get immediate medical attention or advice. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

*** Section 5 - Fire Fighting Measures ***

Flash Point: > 212 °F

Method Used: Calculated

Flammability Classification: Non-flammable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

Fire & Explosion Hazards:

This product is an aqueous mixture which will not burn.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Do not inhale vapors or mists of this product. Do not take internally. Wash thoroughly after handling. For industrial use only. Use caution when combining with water; DO NOT add water to acid, ALWAYS add acid to water while stirring to prevent release of heat, steam and fumes. Mix well before using.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Phosphoric acid (7664-38-2)

ACGIH: 1 mg/m3 TWA
3 mg/m3 STEL

OSHA: 1 mg/m3 TWA
3 mg/m3 STEL

NIOSH: 1 mg/m3 TWA
3 mg/m3 STEL

Engineering Controls:

Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

PERSONAL PROTECTIVE EQUIPMENT

As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

Eyes/Face Protective Equipment:

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:

Use impervious gloves. Use of impervious apron and boots are recommended.

Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Work Practices:

Eyewash fountains and emergency showers are required.

*** Section 9 - Physical & Chemical Properties ***

Physical State:	Liquid	Appearance:	Green
Odor:	Mild	Vapor Pressure:	Not determined
Boiling Point:	>212 °F (>100 °C)	Specific Gravity:	1.32-1.35 @ 16 °C
pH:	< 2	Viscosity:	Not determined
VOC:	Not applicable	Solubility Water:	Complete
Percent Solids:	30-45%		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability:

Stable under normal conditions.

Incompatibility:

This product may react with strong alkalis.

Decomposition Products:

Upon decomposition, product may yield oxides of phosphorous.

Hazardous Polymerization:

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Toxicity:

A: General Product Information

Phosphoric acid is an eye, skin and respiratory system irritant. Repeated exposure can cause bronchitis with cough, phlegm and shortness of breath. Long term skin contact may result in drying and cracking of the skin.

B: Component Analysis - LD50/LC50

Chromium nitrate (13548-38-4)

Oral LD50 Rat: 3250 mg/kg

Phosphoric acid (7664-38-2)

Inhalation LC50 Rat: >850 mg/m³/1H; Oral LD50 Rat: 1530 mg/kg; Dermal LD50 Rabbit: 2730 mg/kg

Carcinogenicity:

A: General Product Information

No information available for the product.

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity

No information available for the product.

Epidemiology:

No information available for the product.

Neurotoxicity:

No information available for the product.

Mutagenicity:

No information available for the product.

Teratogenicity:

No information available for the product.

Other Toxicological Information:

None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Phosphoric acid (7664-38-2)

Test & Species

96 Hr LC50 Gambusia affinis

12 Hr EC50 Daphnia magna

Conditions

3-3.5 mg/L

4.6 mg/L

Environmental Fate:

No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:

A: General Product Information

This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002). You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. This chemical contains phosphates. This chemical contains heavy metals.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Please refer to the container label for transportation information.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Phosphoric acid (7664-38-2)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No Reactive: No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Chromium nitrate (related to Chromium compounds)	13548-38-4	Yes ¹	No	No	No	Yes	Yes ¹
Chromium phosphate (related to Chromium compounds)	7789-04-0	Yes ¹	No	No	No	Yes ¹	Yes ¹
Phosphoric acid	7664-38-2	Yes	No	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Chromium nitrate	13548-38-4	Yes	Yes	Yes
Chromium phosphate	7789-04-0	Yes	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Phosphoric acid	7664-38-2	1 %

* * * Section 16 - Other Information * * *

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

HMIS Ratings: Health: 3 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

Material Safety Data Sheet

Material Name: BONDERITE® 6010

ID: RS00298424

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Product Safety and Regulatory Affairs

Contact Phone: (248) 583-9300

This is the end of MSDS # RS00298424

Gardo® TP 10724/1

 Version 1.3
 Revision Date 12/07/2007

Print Date 12/07/2007

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Gardo® TP 10724/1
 MSDS Number : REL_11223

 Company : OAKITE PRODUCTS INC
 675 Central Avenue
 New Providence, NJ 07974

 Telephone : +18005264473
 Telefax : +19084644658
 Emergency telephone no : CHEMTREC - 800-424-9300

SECTION 2. HAZARDOUS COMPONENTS INFORMATION

Component	CAS-No.	Weight %
Chromium (III) phosphate	7789-04-0	1.00 - 10.00
Chromium (III) nitrate	13548-38-4	1.00 - 5.00
Chromium (III) oxide	1308-38-9	0.10 - 1.00
Manganese gluconate	6485-39-8	1.00 - 10.00
Manganese (II) citrate	10024-66-5	1.00 - 5.00

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

SECTION 3. HAZARDS IDENTIFICATION
Emergency Overview

Form : liquid
 Colour : green
 Odour : acrid
 Hazard Summary : Harmful by inhalation and if swallowed. Causes severe burns. Liquid or vapor causes burns which may be delayed.

Route(s) of Entry :	Inhalation	Skin	Ingestion
	yes	yes	yes

Carcinogenicity:

NTP No substance in this product is listed by NTP as a carcinogen
 IARC No substance in this product is listed by IARC as a carcinogen
 OSHA No substance in this product is regulated by OSHA as a carcinogen

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Revision Date 12/07/2007

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SECTION 4. FIRST AID MEASURES

- Inhalation : Remove to fresh air If symptoms persist, call a physician If breathing is irregular or stopped, administer artificial respiration
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes Take off contaminated clothing and shoes immediately Get medical attention immediately if irritation develops and persists
- Eye contact : Rinse immediately with plenty of water for at least 15 minutes Keep eye wide open while rinsing Get medical attention immediately
- Ingestion : Rinse mouth Drink 1 or 2 glasses of water Never give anything by mouth to an unconscious person Get medical attention immediately

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : Note: does not flash
- Lower explosion limit : Note: Not applicable.
- Upper explosion limit : Note: Not applicable.
- TDG Flammability Class : NONE
- Suitable extinguishing media : carbon dioxide (CO₂)
dry chemical
foam
water spray
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Methods for cleaning up : Soak up with inert absorbent material.
lime
soda ash
Keep in suitable, closed containers for disposal.
- Additional advice : Never return spills in original containers for re-use.

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SECTION 7. HANDLING AND STORAGE**Storage**

Requirements for storage areas and containers : KEEP FROM FREEZING
 Keep containers tightly closed to avoid contamination
 Store indoors in a cool, well-ventilated place

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	ACGIH TLV (TWA)	OSHA PEL (TWA)
Chromium (III) phosphate	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.
Chromium (III) nitrate	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.
Chromium (III) oxide	0.5 mg/m ³ as CrN.D.	0.5 mg/m ³ as CrN.D.
Manganese gluconate	0.2 mg/m ³ as MnN.D.	5 mg/m ³ ceilingN.D.
Manganese (II) citrate	0.2 mg/m ³ as MnN.D.	5 mg/m ³ ceilingN.D.

Eye protection : Chemical resistant goggles must be worn.

Hand protection : impervious butyl rubber gloves

Skin and body protection : complete suit protecting against chemicals

Respiratory protection : If the occupational exposure limits cannot be met, suitable respiratory equipment should be worn .

Hygiene measures : Avoid contact with skin, eyes and clothing
 Wear suitable gloves and eye/face protection
 Wear suitable protective clothing
 Wash hands before breaks and immediately after handling the product
 Provide adequate ventilation
 Do not inhale fumes.
 Keep away from food and drink

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

pH : < 2.5

Melting point/range : 0 °C (0 °C)

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Boiling point/range	:	Note: no data available
Vapour pressure	:	Note: no data available
Bulk density	:	9.69 lb/gal
Water solubility	:	Note: completely soluble
Partition coefficient (n-octanol/water)	:	Note: no data available
Percent of Volatile by Weight excluding water	:	Note: no data available
Relative density	:	1.161
Evaporation rate	:	1 Note: Water = 1

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	freezing
Materials to avoid	:	bases Warning! Do not use together with other products; may release dangerous gases (chlorine).
Hazardous decomposition products	:	Acidic fumes chromium oxides hydrogen, by reaction with metals Nitrogen Oxides Phosphorus Oxides carbon dioxide (CO ₂) carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity: : Mixture; Not Determined.

Acute oral toxicity
Chromium (III) nitrate : LD50, rat
Dose: 3,250 mg/kg

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SECTION 12. ECOLOGICAL INFORMATION

Not Available

SECTION 13. DISPOSAL CONSIDERATIONS

Advice on Disposal : Refer to all federal, provincial, state and local regulation prior to disposition of container and unused contents by reuse, recycle or disposal.

SECTION 14. TRANSPORT INFORMATION

Refer to Bill of Lading.

SECTION 15. REGULATORY INFORMATION

TSCA Status : All components of this material comply with US TSCA requirements.

SARA 313 Components :

Chromium (III) phosphate	CAS-No. 7789-04-0
Chromium (III) nitrate	CAS-No. 13548-38-4
Chromium (III) oxide	CAS-No. 1308-38-9
Manganese gluconate	CAS-No. 6485-39-8
Manganese (II) citrate	CAS-No. 10024-66-5

SARA 313 Components : N.D.

CERCLA Reportable Quantity :

Chromium (III) phosphate	10 Pounds
Chromium (III) nitrate	10 Pounds
Chromium (III) oxide	10 Pounds

California Prop. 65 : N.D

NFPA : 3 0 0 Corrosive Acid

HMIS : 3 0 0 J

WHMIS : D2A: Very Toxic Material Causing Other Toxic Effects
E: Corrosive Material

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Print Date 12/07/2007

SECTION 16. OTHER INFORMATION

Further information

Oakite Products, Inc. warrants that the products described herein will conform with its published specifications. The products supplied by Oakite and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Oakite materials for their own particular purpose. Since buyer's conditions of use of products are beyond Oakite's control, Oakite does not warrant any recommendations and information for the use of such products. OAKITE DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.

D. A. STUART COMPANY
MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME : STEELSHIELD 6299
PRODUCT ID NUMBER : 08935.00
PRODUCT CLASS : RUST PREVENTIVE

MANUFACTURER IDENTIFICATION:

NAME : D. A. STUART COMPANY
ADDRESS : 4580 WEAVER PARKWAY
WARRENVILLE IL
60555
TELEPHONE : 630-393-0833

FOR CHEMICAL EMERGENCY

Spill, leak, fire, exposure, or accident
EMERGENCY CONTACT : CHEMTREC
EMERGENCY TELEPHONE : (800) 424-9300
(703) 527-3887 (INTERNATIONAL)

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

1

CAS# 64742-47-8
PETROLEUM DISTILLATES, HYDROTREATED LIGHT
PCT BY WT: < 2
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM
OSHA PEL/TWA: 100 PPM

2 BHT

CAS# 128-37-0
2,6-DI-T-BUTYL-4-METHYLPHENOL
PCT BY WT: < 2
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 MG/M3
OSHA PEL/TWA: 2 MG/M3

3

CAS# MIXTURE
SYNTHETIC OIL-SOLUBLE SULFONATE, SODIUM SALTS
PCT BY WT: < 3
EXPOSURE LIMIT:
ACGIH TLV/TWA: 5 MG/M3
ACGIH TLV/STEL: 10 MG/M3
OSHA PEL/TWA: 5 MG/M3

4

CAS# 64742-46-7
PETROLEUM HYDROCARBONS
PCT BY WT: < 10
EXPOSURE LIMIT:

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STEELSHIELD 6299

ACGIH TLV/TWA: 5 MG/M3 (OILMIST)
ACGIH TLV/STEL: 10 MG/M3 (OILMIST)
OSHA PEL/TWA: 5 MG/M3 (OILMIST)

This product contains no components, present in excess of 0.1%
by weight, which are listed as carcinogens by IARC, NTP, or OSHA.

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE HEALTH HAZARDS: prolonged or frequent contact may cause skin and eye irritation. Inhalation of mists/vapors may cause respiratory irritation.

CHRONIC HEALTH HAZARDS: Not determined for the product as a whole.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:
Possible red and/or itching skin due to overexposure.

SECTION 4 - FIRST AID MEASURES

EYE CONTACT: Flush with water at once for at least 15 minutes, lifting upper and lower lids to ensure even flushing. Seek medical attention.

SKIN CONTACT: Remove contaminated clothing immediately, and wash affected area thoroughly with soap and water. If irritation persists, seek medical attention.

INHALATION: If a person breathes in large amounts of this product, move the exposed person to fresh air at once. If breathing becomes difficult, administer oxygen and seek immediate medical attention.

INGESTION: Rinse mouth immediately. Never give anything to an unconscious person. Do not induce vomiting unless advised by a physician. Seek immediate medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES:
Flashpoint 345.0 °F COC
Auto-ignition temperature. -N/A
Lower Explosion Limit. . . -N/A
Upper Explosion Limit. . . -N/A

EXTINGUISHING MEDIA:
Dry Chemical, Foam, CO2, Water Fog

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UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

SPECIAL FIRE FIGHTING PROCEDURES:
None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Persons not wearing proper personal protective equipment as stated in Section 8 should be excluded from area of spill. Extinguish all flames in the vicinity. Dike spill and soak up with inert absorbent material. Place in appropriate containers and affix proper labels.

Store containers closed, away from ignition sources such as open flames. Keep away from extreme temperatures.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store containers closed, away from ignition sources such as open flames. Keep away from extreme temperatures.

OTHER PRECAUTIONS:

Use good personal hygiene. For industrial use only. Avoid breathing mists and vapors. Wear all appropriate personal protection equipment at all times.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

EYE PROTECTION: Safety Glasses

PROTECTIVE GLOVES: Impervious, Nitrile or Neoprene

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

An eyewash fountain should be located nearby work area at all times for emergency use.

RESPIRATORY PROTECTION (Specify Type):

If ventilation equipment is not sufficient to keep airborne concentrations below exposure limits, a NIOSH approved respirator should be worn.

VENTILATION:

Local Exhaust: Recommended
Mechanical: None Special
Special: None Special
Other: None Special

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MATERIAL SAFETY DATA SHEET

08935.00
STEELSHIELD 6299

WORK/HYGENIC PRACTICES:

Use good personal hygiene at all times. Launder soiled clothing before reuse. Wash hands thoroughly before eating or smoking.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance	:	AMBER		
Odor	:	CHARACTERISTIC ODOR		
Physical State	:	LIQUID		
pH	:	-N/A		
Vapor Pressure	:	-N/A		
Vapor Density	:	-N/A		
Boiling Range	:	Lower -	N/A	GF
		Higher -	N/A	GF
Water Solubility	:	INSOLUBLE		
Specific Gravity	:	.911		
Evaporation Rate	:	-N/A		

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBILITY (Materials To Avoid): Strong oxidizing agents, strong acids
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon Monoxide and Carbon Dioxide

Oil-based products may fume when heated.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Keep away from heat, sparks, open flames, or all sources of ignition. Do not store next to or with incompatible materials.

SECTION 11 - TOXICOLOGICAL INFORMATION

Please refer to Section 3 for information on potential health effects.

SECTION 12 - ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Follow all Federal, State, Local and Corporate Regulations for disposal. The disposal method and manner practices should be acceptable to good waste management practices and follow applicable codes and regulations.

D. A. STUART COMPANY
MATERIAL SAFETY DATA SHEET

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STEELSHIELD 6299

SECTION 14 - TRANSPORT INFORMATION

SHIPPING INFORMATION:

NOT DOT REGULATED

SECTION 15 - REGULATORY INFORMATION

SARA 311 AND 312 INFORMATION:

This product contains the following substances defined as Hazardous by OSHA Hazard Communication Standard 29 CFR 1910.1200 (d).

CAS#	Chemical Name	% By Weight
------	---------------	-------------

See Section 2

SARA 313 INFORMATION:

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SECTION 16 - OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) INFORMATION:

Health- 1	Flammability- 1
Reactivity- 0	Personal Protective Equipment- X

PPE "X" = Ask Supervisor For Specialized Handling Instructions

Prepared by : EHS Department
MSDS Last Revision Date : 05/05/2008
MSDS Print Date : 07/23/2008

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE BY THE D.A. STUART COMPANY. HOWEVER, NO WARRANTY, EXPRESSED OR IMPLIED, IS GIVEN REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF.