

Material Safety Data Sheet

For Coatings, Resins and Related Materials

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals

24 Hour Emergency: 1-800-123-4567 CHEMTREC: 1-800-424-9300

National Response in Canada CANUTEC: 613-996-6666

Outside U.S. and Canada Chemtrec: 202-483-7616

Section 1 - Chemical Product / Company Information

Product Name:	MIL-PRF-23377J, TYPE I, CLASS N BASE	Revision Date:	07/20/2011
Identification Number:	02GN084	Print Date:	
Product Use/Class:	NON-CHROMATE EPOXY PRIMER BASE/MIL-PRF-23377J, TYPE I, CLASS N	NSN:	
Manufacturer:	Deft, Inc. (CAGE CODE 33461) 17451 Von Karman Ave Irvine, Ca. 92614	Information Phone:	(949) 474-0400
		Emergency Phone:	(800) 424-9300

Section 2 - Hazards Identification

*** Emergency Overview ***: Flammable liquid and vapors. Harmful by inhalation, in contact with skin, and if swallowed. May cause burns to the skin. Eye irritant. Contact with eyes or skin causes irritation.

Effects Of Overexposure - Eye Contact: Exposure to liquid, aerosol, or vapors may cause irritation, tearing, redness, and swelling accompanied by a stinging sensation. Contact with eyes may cause blurred vision and irritation. Benzyl alcohol, a component of this formulation, can cause severe eye irritation and eye tissue injury as a result of direct eye contact.

Effects Of Overexposure - Skin Contact: Direct skin contact may cause irritation. Symptoms may include drying and cracking of skin, swelling, redness, pain, numbness, rash, burning, blistering, and skin burns. Material may pass through the skin and cause effects similar to breathing or ingestion. Prolonged or repeated skin contact may cause dermatitis, drying, and defatting due to the solvent properties. May cause allergic skin reaction. May cause severe skin irritation.

Effects Of Overexposure - Inhalation: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes) & acute nervous system depression characterized by the following progressive steps: headache, nausea, weakness, dizziness, staggering gait, confusion, fatigue, drowsiness, unconsciousness, or coma. Exposure may cause difficult breathing, shortness of breath, or coughing. Inhalation may cause headaches and loss of consciousness. Harmful by inhalation. Lung inflammation or other lung injury may occur if secondary butyl alcohol enters the lungs through vomiting or swallowing. Overexposure to METHYL NORMAL PROPYL KETONE, a component of this formulation, has been suggested as a cause of mild, reversible effects on the livers and kidneys of laboratory animals. Exposure to benzyl alcohol, a component of this formulation, may aggravate preexisting medical conditions of the respiratory tract, lungs, and skin.

Effects Of Overexposure - Ingestion: Ingestion may cause gastrointestinal irritation, abdominal pain, nausea, vomiting, and diarrhea. May result in possible corrosive action in the mouth, stomach tissue, and digestive tract. Vomiting may cause aspiration of the solvent, resulting in chemical pneumonitis. Lung inflammation or other lung injury may occur if methyl n-propyl ketone enters the lungs through vomiting or swallowing. The gastrointestinal tract lining may be damaged through the ingestion of a component.

Effects Of Overexposure - Chronic Hazards: Prolonged contact will cause drying and cracking of the skin, due to defatting action. Repeated or prolonged contact causes sensitization, asthma, and eczemas. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Exposure may cause mild, temporary changes in the liver, and low blood pressure. In animal studies, exposure to a component(s) has been shown to cause damage to the fetus, only at a level of exposure that would also harm the pregnant animal. The relevance of these findings to humans is unknown. Exposure to METHYL NORMAL PROPYL KETONE, a component of this formulation, has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Methyl n-propyl ketone, a component of this formulation, has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels

that harm the pregnant animal. The relevance of these findings to humans is uncertain.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Eye Contact

Section 3 - Composition / Information On Ingredients

Component	CAS Number	Weight % Reporting Ranges
BENZENE, 1-CHLORO-4 TRIFLUOROMETHYL	98-56-6	15-40
METHYL n-PROPYL KETONE	107-87-9	7-13
TITANIUM DIOXIDE	13463-67-7	5-10
sec-BUTYL ALCOHOL	78-92-2	5-10
INORGANIC OXIDE	12036-32-7	1-5
BENZYL ALCOHOL	100-51-6	1-5
BISPHENOL A EPOXY RESIN, AVG. MOL. WT. < 700	25085-99-8	1-5
ALIPHATIC AMINE	140-31-8	0.5-1.5

ALL INGREDIENTS ARE ON THE TSCA INVENTORY LIST, UNLESS OTHERWISE NOTED IN SECTION

8.

Section 4 - First Aid Measures

First Aid - Eye Contact: If material gets into eyes, flush with water immediately for 15 minutes. Hold eyelids open to rinse out the entire eye. Consult a physician. If symptoms develop (irritation) from airborne exposure, move to fresh air.

First Aid - Skin Contact: Remove contaminated clothing and shoes. In case of contact, immediately flush skin with plenty of water and wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse or discard. If symptoms develop, consult a physician.

First Aid - Inhalation: Move to fresh air in case of accidental inhalation of vapors. Give oxygen or artificial respiration if needed. Asthmatic type symptoms may develop and maybe immediate or delayed by several hours. In the case of inhalation of aerosol/mist, consult a physician, if necessary.

First Aid - Ingestion: Do not induce vomiting. Do not give anything to an unconscious person. Obtain medical help.

Section 5 - Fire Fighting Measures

Flash Point (°F): 46 TCC LOWER EXPLOSIVE LIMIT UPPER EXPLOSIVE LIMIT (%): 10.
(%): 0.9

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Spray, Dry Sand, Dry Powder

Unusual Fire And Explosion Hazards: Keep containers tightly closed. Isolate from heat, sparks, electrical equipment and open flame. Fire or intense heat may cause violent rupture of packages. Application to hot surfaces requires special precautions. Toxic gases may form when product burns. Remove all sources of ignition. Do not use a cutting or welding torch near or on a drum of product, because vapors may ignite explosively, even if the drum is empty and contains only product residue. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Special Firefighting Procedures: In the event of fire, wear self-contained breathing apparatus. Firefighters should wear full protective clothing. Flammable. Cool fire-exposed containers using water spray.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate area. Contain and remove spilled material with inert absorbent and non-sparking tools. Use personal protective equipment as necessary. Dike to prevent entering any sewer or waterway. Soak up with vermiculite or inert absorbent material.

Section 7 - Handling and Storage

Handling: Prevent prolonged breathing of vapors or spray mist. Avoid contact with eyes and skin. Do not take internally. Do not handle until the manufacturers safety precautions have been read and understood.

Handle in accordance with good industrial hygiene and safety practice. Keep away from heat and sources of ignition. Use safety precautions with empty containers. Empty containers may contain hazardous materials (product residues) in the form of solids, liquids, or vapors. Always use grounding leads when transferring from one container to another. Protect container against physical damage.

Storage: Store in buildings designed to comply with OSHA 1910.106. Avoid storing near high temperatures, fire, open flames, and spark sources. Keep containers upright to prevent leakage and tightly closed in a dry, cool, and well-ventilated place.

Section 8 - Exposure Controls / Personal Protection

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
BENZENE, 1-CHLORO-4 TRIFLUOROMETHYL	2.5 mg/m3	N.E.	2.5 mg/m3	N.E.
METHYL n-PROPYL KETONE	200 ppm	250 ppm	200 ppm	250 ppm

TITANIUM DIOXIDE	10 mg/m3	N.E.	15 mg/m3	N.E.
sec-BUTYL ALCOHOL	100 ppm	N.E.	100 ppm	N.E.
INORGANIC OXIDE	10 mg/m3 total dust	NE	15 mg/m3 total dust	
BENZYL ALCOHOL	N.E.	N.E.	N.E.	N.E.
BISPHENOL A EPOXY RESIN, AVG. MOL. WT. < 700				
ALIPHATIC AMINE	N.E.	N.E.	N.E.	N.E.

Notes

BENZENE, 1-CHLORO-4 TRIFLUOROMETHYL CAS# 98-56-6 prolonged or repeated exposure to large amount through breathing or swallowing has been shown cause damage to the liver and kidneys in animal studies.

METHYL n-PROPYL KETONE CAS# 107-87-9 has been shown to cause harm to the fetus in laboratory animals. It only caused harm at levels of overexposure that would also harm the pregnant animal. The relevance to humans is unknown. It also has been shown to cause mild, reversible kidney effects and mild, reversible liver effects in laboratory animals.

TITANIUM DIOXIDE CAS# 13463-67-7 - ACGIH/TLV & OSHA/PEL exposure limits are for the total dust. IARC Group 2B possibly carcinogenic to humans. Titanium Dioxide is considered by NIOSH to be a potential occupational carcinogen under Hazard Communication Standard, 29 CFR 1910.1200. This was based on NIOSH's interpretation of the study by Lee, Trochimowicz, and Reinhardt [1985], "Pulmonary Response of Rats Exposed to Titanium Dioxide (TiO₂) by Inhalation for Two Years." "The authors of this study concluded that based on the excessive dust loading and overwhelmed clearance mechanism in the lungs of rats exposed chronically at 250 mg/m³ (6 hrs/day, 5 days/week for 2 years), the biological relevance of lung tumors to man appears to be negligible."

IRRITATION OF EYES, SKIN, AND RESPIRATORY TRACT ARE SYMPTOMS OF EXPOSURE. NO LISTING IN 2009 ACGIH GUIDE TO OCCUPATIONAL EXPOSURE.

BENZYL ALCOHOL CAS# 100-51-6 - In laboratory studies, Benzyl alcohol has been shown to cause harm to the fetus of animals. Significance of these findings in humans is unknown.

ALIPHATIC AMINE CAS# 140-31-8 - Contains Bisphenol A (CAS# 80-05-7) less than 55%.

Engineering Controls: Local ventilation of emission sources may be necessary to maintain ambient concentrations below permissible OSHA exposure limits. Remove all ignition sources (heat, sparks, flame, and hot surfaces).

Respiratory Protection: A respirator that is recommended or approved for use in an organic vapor environment (air purifying or fresh air supplied) is necessary. Observe OSHA regulations for respirator use. Ventilation should be provided to keep exposure levels below the OSHA permissible limits.

Skin Protection: Solvent-resistant gloves.

Eye Protection: Wear safety eyewear (safety glasses, safety glasses with side-shields, chemical goggles, or face shields) to prevent eye contact.

Other protective equipment: Long sleeve and long leg clothing is recommended. Remove and wash contaminated clothing before reuse or discard. Safety shower and eyewash station should be located in immediate work area. Wear boots that are chemical-resistant.

Hygienic Practices: Wash hands before breaks, eating, smoking, using washroom, and at the end of the workday.

Section 9 - Physical and Chemical Properties

Boiling Range (°F):	211 - 282	Vapor Density:	HEAVIER THAN AIR
Odor:	PARACHLOROBENZOTRIFLUORIDE & METHYL n-PROPYL KETONE SOLVENTS	Odor Threshold:	N.D.
Appearance:	Green liquid	Evaporation Rate:	N.D.
Solubility in H ₂ O:	ND	Specific Gravity:	1.385
Freeze Point:	N.D.	PH:	N.A.
Vapor Pressure, mm Hg:	8.9	Viscosity:	> 18 #2 ZAHN CUP SECONDS
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability and Reactivity

Conditions To Avoid: Avoid high temperatures, sparks, or open flames. Do not breathe vapors or spray mist.

Incompatibility: Material is incompatible with oxidizing agents. Material is incompatible (reacts) with strong oxidizing agents, strong acids (Lewis and mineral), amines, and mercaptans. Material is incompatible with acids and bases. Reacts with amines and mercaptans.

Hazardous Decomposition: Thermal decomposition can lead to the generation and release of gases and vapors including carbon monoxide, carbon dioxide, aldehydes, and acids (organic). May produce gases containing fluorine or chlorine.

Hazardous Polymerization: Will not occur.

Stability: Stable under recommended storage conditions. Benzyl alcohol, a component of this formulation,

is incompatible with aluminum, iron, strong mineral acids, and strong oxidizing agents.

Section 11 - Toxicological Information

Product LD50: N.E.

Product LC50: N.E.

Section 12 - Ecological Information

Ecological Information: No Information.

Section 13 - Disposal Information

Disposal Information: Dispose of waste in accordance with federal, state, and local environmental regulations. Empty containers will contain product residue and flammable vapors. Handle as hazardous material. Do not incinerate closed containers. EPA Hazardous Waste Number/Code: D001, F003, F005. Hazardous Waste Characteristics: Ignitability and Reactivity.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Paint	Packing Group:	II
DOT Technical Name:	N.A.	Hazard Subclass:	N.A.
DOT Hazard Class:	FLAMMABLE LIQUID 3	Resp. Guide Page:	N.A.
DOT UN/NA Number:	UN-1263	IATA:	REGULATED

Section 15 - Regulatory Information

CERCLA – SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Component</u>	<u>CAS Number</u>	<u>Percent By Weight</u>
sec-BUTYL ALCOHOL	78-92-2	8.4211

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

<u>Component</u>	<u>CAS Number</u>
METHYL ISOBUTYL KETONE	108-10-1

U.S. State Regulations: As follows –

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

<u>Component</u>	<u>CAS Number</u>
INORGANIC SULFATE	7778-18-9

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Component</u>	<u>CAS Number</u>
INORGANIC SULFATE	7778-18-9
POLYAMIDE RESIN	TRADE SECRET

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Component</u>	<u>CAS Number</u>	<u>Percent By Weight</u>
SILICA, CRYSTALLINE (QUARTZ)	14808-60-7	0.0283

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

None

International Regulations: As follows –

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: B2, D2B

Section 16 - Other Information**HMIS Ratings:**

Health: 1 Flammability: 3 Reactivity: 0 Personal Protection: G

NFPA Fire Rating: 3

NFPA Health Rating: 2

NFPA Specific Hazard Rating: NA

NFPA Stability Rating: 1

VOLATILE ORGANIC COMPOUNDS, GR/LTR: 395

VOLATILE ORGANIC COMPOUNDS, LB/GAL: 3.29

VOLATILE ORGANIC COMPOUNDS MIXED, GR/LTR: <= 340

VOLATILE ORGANIC COMPOUNDS MIXED, LB/GAL: <= 2.8

VOLATILE ORGANIC COMPOUNDS, LB/LB-SOLID: <= 0.41

VOLATILE ORGANIC COMPOUNDS OF MATERIAL (SCAQMD RULE 443.1), GR/LTR: 292

VOLATILE ORGANIC COMPOUNDS OF MATERIAL (SCAQMD RULE 443.1), LB/GAL: 2.43

VOLATILE HAPs PER WEIGHT SOLIDS, LB./LB. 0.01030

REASON FOR REVISION: PERIODIC REVIEW

REGULATORY CODE: 02GN084

LAYOUT CODE: A2004R

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.