



SAFETY DATA SHEET

According to 29 CFR 1910.1200(g)

PROTAL 7200 PART A (RESIN)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Protal 7200 Part A (Resin)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product Use Industrial use as a protective coating in prevention of corrosion.

Restricted Use Not intended for use by general public.

1.3. Details of the supplier of the safety data sheet

Company Denso North America

Address 9747 Whithorn Drive
Houston, TX 77095

Web www.densona.com

Telephone 1 (281) 821-3355

Fax 1 (281) 821-0304

Email info@densona.com

1.4. Emergency telephone number

Emergency telephone number (24 Hour) 1-801-629-0667

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

2.1.1. Health Eye corrosion – Category 2
Skin corrosion – Category 3
Skin sensitizer

2.1.2. Environmental Acute aquatic toxicity – Category 2
Chronic aquatic toxicity – Category 2

2.1.3. Physical None

2.2. Label elements

Hazard pictograms



Signal Word

Warning

Hazard statement

H302 – Harmful if swallowed.
H315 – Causes skin irritation
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation



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Precautionary Statement: Prevention

H335 – May cause respiratory irritation.
H411 – Toxic to aquatic life with long-lasting effects.

P102 – Keep out of reach of children.
P202 – Do not handle until all safety precautions have been read and understood
P233 – Keep container tightly closed.
P234 – Keep only in original container.
P235 – Store in a well ventilated place. Keep cool.
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
P262 – Do not get in eyes, on skin, or on clothing.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink, or smoke when using this product.
P271 – Use only outdoors or in a well-ventilated area.
P272 – Contaminated work clothing should not be allowed out of the workplace.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement: Response

P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 – IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P314 – Get medical advice / attention if you feel unwell.
P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 – If eye irritation persists: Get medical advice/attention.
P363 – Wash contaminated clothing before reuse.
P391 – Collect spillage.

Precautionary Statement: Disposal

P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical Name	CAS No.	Concentration (%w/w)	Classification
Reaction product: bisphenol-A- (epichlorohydrin); epoxy resin (number average molecular weight < 700)	25068-38-6	10-30%	Skin Irr-2; H315 Eye Irr-2; H319 Skin Sens-1; H317 Aq Chronic-2; H411
Reaction product: bisphenol-F- epichlorohydrin	28064-14-4	10-30%	Skin Irr-2; H315 Skin Sens-1; H317
Trimethylol propane triglycidyl ether polymer	30499-70-8	5-20%	Skin Corr-2; H315 Eye Corr-2; H319 Skin Sens; H317
Quartz	14808-60-7	10-30%	(1) (2)



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Magnesium Silicate
NOTES:

14807-96-6

10-30%

(1) (2)

- (1) Substance classified with a health or environmental hazard.
- (2) Substance with a workplace exposure limit.

SECTION 4: First aid measures

4.1. General advice	Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
4.2. Eye contact	Immediately flush eyes with plenty of water for at least 15 minute, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
4.3. Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. For contact with hot product, flush contaminated skin with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze. Get medical attention immediately.
4.4. Ingestion	Wash out mouth with water. Remove dentures, if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposure person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
4.5 Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.
4.6. Most important symptoms and effects, both acute and delayed	
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin. May cause sensitization by skin contact. May aggravate pre-existing conditions.



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Ingestion	May cause nausea and vomiting
Inhalation	May cause irritation to respiratory system.

SECTION 5: Firefighting measures

5.1. Suitable extinguishing media	Alcohol-resistant foam, Carbon dioxide (CO ₂), Dry chemical, Dry sand, Limestone powder. Do not use a solid water stream as it may scatter and spread fire.
5.2. Specific hazards	Decomposition products may include the following materials: carbon dioxides. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.
5.3. Special protective equipment for fire-fighters	Avoid contact with skin. Fire-fighters should wear appropriate personal protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
5.4. Further information	Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled materials. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
6.2. Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
6.3. Methods for cleaning up	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Use absorbent with inert material. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed, waste-disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
6.4. Additional advice	Stop leak if without risk.

SECTION 7: Handling and storage

7.1. Handling	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking or smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed
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7.2. Storage

when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3. Technical precautions

Do not store in reactive metal containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

CAS No.

25068-38-6

28064-14-4

30499-70-8

14808-60-7

14807-96-6

ACGIH TLV

None established

None established

None established

0.025 mg/m³ (as respirable dust)

2 mg/m³ (as respirable dust)

8.2. Control measures / Personal Protection

8.2.1. Recommended monitoring procedures

To meet the exposure limits for the materials listed above, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

8.2.2. Engineering measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

8.2.3. Hygiene measures

Wash hands, forearms, and face after handling chemical products, before eating, smoking or using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing or discard as necessary. Ensure that eyewash stations/bottles with pure water and safety showers are close to the workstation location.

8.2.4. Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

8.2.5. Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists,



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8.2.6. Skin protection

gases or dusts. This may include, but is not limited to, safety glasses, goggles and face shields.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. This equipment may include, but is not limited to, impervious gloves, gauntlets, impervious shoes/boots, and protective clothing. The breakthrough time of the selected protective glove(s), shoes and clothing must be greater than the intended use period.

8.2.7. Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Environmental exposure controls may also include dikes or other liquid containment devices.

SECTION 9: Physical and chemical properties

Form	Viscous Liquid	Vapor Pressure	ND
Color	White	Relative vapor density	>1
Odor	Mildly irritating	Relative density	1.62
Odor threshold	ND	Water solubility	Slight
pH	about 7	Partition coefficient (n-octanol/water)	ND
Freezing point	ND	Auto-ignition temperature	ND
Boiling point	ND	Decomposition temperature	ND
Flash Point	>200°F (93°C)	Viscosity	255,000 cP @ 73°F (22°C)
Evaporation rate	N/A	Oxidizing	N/A
Flammable Limits	ND	Explosion Limits	ND

SECTION 10: Stability and reactivity

10.1 Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
10.2. Conditions to avoid	Temperatures greater than 300°F (149°C)
10.3. Materials to avoid	Reactive or incompatible with the following materials: Oxidizing materials, Strong acids, Strong alkalis (such as amines)
10.4. Other hazards	Reacts with considerable heat release with some curing agents, such as amines.
10.5. Hazardous decomposition products	Decomposition products may include the following materials: Carbon oxides

SECTION 11: Toxicological information

11.1. Acute health hazard	Product:
	Acute oral toxicity: ND
	Acute dermal toxicity: ND



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Components:

25068-38-6

Acute oral toxicity: LD50 (rat): 30,000 mg/kg

Acute dermal toxicity: LD50 (rat): >1,200 mg/kg

28064-14-4

Acute oral toxicity: LD50 (rat): >2,000 mg/kg

Acute dermal toxicity: LD50 (rabbit): >2,000 mg/kg

30499-70-8

Acute oral toxicity: LD50 (rat): >2,000 mg/kg

Acute dermal toxicity: LD50 (rabbit): >2,000 mg/kg

14808-60-7

Acute oral toxicity: ND

Acute dermal toxicity: ND

Acute inhalation toxicity: ND

14807-96-6

Acute oral toxicity: ND

Acute dermal toxicity: ND

Acute inhalation toxicity: ND

11.2. Skin corrosion or irritation

Product: May cause skin irritation in susceptible persons.

Components:

25068-38-6

Species: adult rabbit

Result: slight to moderate irritation to skin

Classification: irritating to skin

28064-14-4

Species: adult rabbit

Result: slight to moderate irritation to skin

Classification: irritating to skin

30499-70-8

Species: adult rabbit

Result: slight to moderate irritation to skin

Classification: irritating to skin

11.3. Serious eye damage or irritation

Product: Irritating to the eye.

Components:

25068-38-6

Species: adult rabbit

Result: slightly irritating

Classification: irritating to eyes



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11.4. Respiratory or skin sensitization

28064-14-4
Species: adult rabbit
Result: slightly irritating
Classification: irritating to eyes

30499-70-8
Species: adult rabbit
Result: serious eye irritation
Classification: serious irritation to eyes

14808-60-7
Species: ND
Result: mechanical irritation only
Classification: Not irritating to eyes.

14807-96-6
Species: ND
Result: mechanical irritation only
Classification: Not irritating to eyes.

Product: May cause skin sensitization in susceptible persons.

Components:

25068-38-6
Species: adult guinea pig
Result: Causes skin sensitization.
Classification: Causes skin sensitization.

28064-14-4
Species: adult guinea pig
Result: Causes skin sensitization.
Classification: Causes skin sensitization.

30499-70-8
Species: adult guinea pig
Result: Causes skin sensitization.
Classification: Causes skin sensitization.

11.5. Germ cell mutagenicity

Product: Not likely to be mutagenic based on components.
Components: None of the components is known to have significant mutagenic effects.

11.6. Carcinogenicity

Product: Not likely to be classifiable as a human carcinogen based on components.



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Components:

14808-60-7

Remarks: Known carcinogen via inhalation (IARC)

14807-98-6

Remarks: Talc may contain crystalline silica. IARC has concluded that there is limited evidence of carcinogenicity of crystalline silica in humans and sufficient evidence of carcinogenicity of crystalline silica in experimental animals (IARC Class 2A). The NTP has concluded that crystalline silica (respirable) may reasonably be expected to be a carcinogen.

11.7. Reproductive toxicity

Product: Not known to have adverse effects on sexual function, fertility, and/or on development.

Components: None of the components is classified as a reproductive toxin.

11.8. STOT – single exposure

Product: No data available, but irritation to skin and eyes and sensitization are possible. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Components:

14808-60-7

Remarks: If particulates are inhaled, irritation to the respiratory system may occur.

11.9. STOT – repeated exposure

Product: No data available, but irritation and/or sensitization to the skin and eyes is possible. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Components:

14808-60-7

Remarks: If particulates are inhaled, damage to the kidneys, lungs, and autoimmune system may occur.

11.10. Repeated dose toxicity

Product: Causes skin irritation and may cause sensitization. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Components:

25068-38-6

Remarks: Skin and eye irritation, sensitization.

28064-14-4

Remarks: Skin and eye irritation, sensitization.

30499-70-8

Remarks: Skin and eye irritation, sensitization.

14808-60-7

Remarks: Silicosis, Cancer, Pulmonary Tuberculosis, Kidney disease, autoimmune diseases, non-malignant respiratory diseases



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11.11. Aspiration toxicity

14807-96-6

Remarks: Talc may contain crystalline silica. Repeated inhalation to crystalline silica may result in silicosis, cancer, pulmonary tuberculosis, kidney disease, autoimmune diseases, and non-malignant respiratory diseases.

Product: None known

Components: None known

11.12. Further information

Likely routes of exposure – inhalation; skin and eye contact.

SECTION 12: Ecological information

12.1. Ecotoxicity

Product: Toxic to aquatic life based on components present.

Components:

25068-38-6

Toxicity to fish – 96 h

LC50: 3.1 mg/L

Test type: Fathead minnow

Toxicity to daphnia and other aquatic invertebrates – 48 h

LC50: 1.3 mg/L

Test type: Similar material

28064-14-4

Toxicity to fish – 96 h

LC50: >1-10 mg/L

Test Type: Similar material

Toxicity to daphnia and other aquatic invertebrates – 48 h

EC50: >1-10 mg/L

Test Type: Similar material

Toxicity to algae

EC50: ND

30499-70-8

Toxicity to fish – 96 h

LC50: 10-100 mg/L

Test Type: Similar material

Toxicity to daphnia and other aquatic invertebrates – 48 h

EC50: 10-100 mg/L

Test Type: Similar material

Toxicity to algae – 3 h

EC50: >100 mg/L

Test Type: Similar material

Toxicity to bacteria – 24 h

IC50 (Bacteria): ND

Test Type: Static test

14808-60-7

Remarks: Not toxic to aquatic life

14807-96-6

Remarks: Not toxic to aquatic life

12.2. Persistence and degradability

Product: No data available

Components:

25068-38-6

Biodegradability after 28 days – 12%

28064-14-4

Remarks: Not readily biodegradable



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14808-60-7

Remarks: Persistent/Not biodegradable

14807-98-6

Remarks: Persistent/Not biodegradable

12.3. Bioaccumulative potential

Product: No data available

Components: No data available

12.4. Mobility in soil

Product: No data available

Components: No data available

12.5. Other adverse effects

Product: No data available. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal, Harmful, possibly toxic to aquatic life.

Components: No data available

SECTION 13: Disposal considerations

13.1. Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements. Avoid disposal of spilled material and runoff and contaminated soils in waterways, drains or sewers. Dispose of contaminated containers, soils, etc. in compliance with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements. Empty any remaining contents from packaging prior to disposal and dispose of as unused product. Do not reuse empty containers.

SECTION 14: Transport information



14.1. UN number

UN3082

14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

14.3. Transport hazard class
International Carriage of
Dangerous Good by
Road/Rail

ADR/RID:

9



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International Maritime Dangerous Goods Association	IMDG:	9	
US Code of Federal Regulations	IATA:	9	
Canadian Transportation of Dangerous Goods	CFR	Not Regulated	
US Department of Transportation	TDG:	Not Regulated	
	DOT:	Not Regulated in non-bulk packaging (Drums/Pails/Cans)	
14.4. Packing group	III		
14.5. Environmental hazards	Environmental hazards: Yes	Marine pollutant: Yes	
	ADR/RID		
	Hazard ID:	90	Tunnel Category: (E)
	IMDG		
	EmS Code:	F-A S-F	
	IATA		
	Packing Instruction (Cargo):	964	Maximum quantity: 450 L
	Packing instruction (Passenger):	964	Maximum quantity: 450 L

SECTION 15: Regulatory information

15.1. OSHA Hazards	Irritant, Sensitizer		
15.2. CERCLA Reportable Quantity	Components	CAS No.	Component RQ Product RQ
	None		
15.3. SARA 314 Extremely Hazardous Substances Reportable Quantity	This material does not contain any components with section 314 EHS RQ.		
15.4. SARA 311/312 Hazards	None		
15.5. SARA Title III, Section 302 Reporting	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.		
15.6. SARA Title III, Section 313 Reporting	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313		
15.7. Clean Air Act	The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61): None		
	This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).		



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15.8. Clean Water Act

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489): None

The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A: None

The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 117.3: None

This product contains the following toxic pollutants listed under the U.S. Clean Water Act, Section 307: None

15.9. US State Regulations

Massachusetts Right-To-Know

14808-60-7 Crystalline silica (Quartz) is a hazardous substance.

Pennsylvania Right-To-Know

14808-60-7 Crystalline silica (Quartz) is a hazardous substance.

New Jersey Right-To-Know

14808-60-7 Crystalline silica (Quartz) is a hazardous substance.

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

14808-60-7 Crystalline silica (Quartz – airborne particles of respirable size)

15.10. International Chemical Inventory Listing

TSCA (US)

Yes (All components of this product are on US inventory)

DSL (Canada)

Yes (All components of this product are on Canadian inventory)

AICS (Australia)

Yes (On Australian inventory or in compliance with inventory)

ICS (New Zealand)

Yes (On New Zealand inventory or in compliance with inventory)

ENCS (Japan)

Yes (On Japanese inventory or in compliance with inventory)

ISHL (Japan)

Yes (On Japanese inventory or in compliance with inventory)

KECI (Korea)

Yes (On Korean inventory or in compliance with inventory)

PICCS (Philippines)

Yes (On Philippine inventory or in compliance with inventory)

IECSC (China)

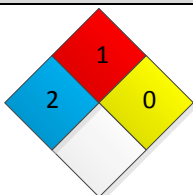
Yes (On Chinese inventory or in compliance with inventory)

15.11. WHMIS Hazard Classification (Canada)

Class D-2B: Material causing other toxic effects (Toxic).
Canadian NPRI: None required.

SECTION 16: Other information

16.1. NFPA





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16.2. HMIS®

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	E

Caution: HMIS ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS ratings are not required on SDS's under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS ratings are to be used with a fully implemented HMIS program. HMIS is a registered mark of the National Paint & Coatings Association (NPCA). HMIS materials may be purchased exclusively from J.J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

16.3. Text of Risk phrases in Section 3

None.

16.4. Text of Hazard statements in Section 3

H302 – Harmful if swallowed.
H315 – Causes skin irritation
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation
H335 – May cause respiratory irritation.
H411 – Toxic to aquatic life with long-lasting effects.

16.5. Notice to Reader

The information provided herein was believed by Denso North America ("Denso") to be accurate at the time of preparation and prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Denso are subject to Denso's terms and conditions of sale. DENSO MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MECHANABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY DENSO, except that the product shall conform to Denso's specifications. Nothing contained herein constitutes an offer for the sale of any product.

16.6. Key/Legend to abbreviations and acronyms used in the safety data sheet

ACGIH American Conference Government Industrial Hygienists
AICS Australia, Inventory of Chemical Substances
DSL Canada, Domestic Substances List
NDSL Canada, Non-Domestic Substances List
CAS Chemical Abstract Service
CNS Central Nervous System



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EC50 Effective Concentration 50%
EGEST EOSCA Generic Exposure Scenario Tool
EOSCA European Oilfield Specialty Chemicals Association
EINECS European Inventory of Existing Chemical Substances
ENCS Japan, Inventory Existing and New Chemical Substances
GHS Global Harmonization System
IDLH Immediately Dangerous to Life or Health Concentrations
IARC International Agency for Research on Cancer
IC50 Inhibition Concentration 50%
IECSC Inventory of Existing Chemical Substances in China
KECI Korea, Existing Chemical Inventory
LC50 Lethal Concentration 50%
LD50 Lethal Dose 50%
LOAEL Lowest Observed Adverse Effect Level
MAK Germany Maximum Concentration Values
N/A Not Applicable
ND Not Determined
NFPA National Fire Protection Agency
NIOSH National Institute for Occupational Safety & Health
NOAEL No Observable Adverse Effect Level
NOEC No Observed Effect Concentration
NTP National Toxicology Program
NZIoC New Zealand Inventory of Chemicals
OSHA Occupational Safety & Health Administration
PEL Permissible Exposure Limit
PICCS Philippines Inventory Commercial Chemical Substances
PRNT Presumed Not Toxic
RCRA Resource Conservation Recovery Act
SARA Superfund Amendments and Reauthorization Act
STEL Short-Term Exposure Limit
TLV Threshold Limit Value
TSCA Toxic Substance Control Act
TWA Time Weighted Average
UVCB Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
WHMIS Workplace Hazardous Materials Information System

16.7. Prepared by

Denso EH & S Department

16.8. Telephone

1-281-821-3355 Corporate
1-801-629-0667 Emergency (24 hour)