

EPOXYBOND® CURE-ROT RESIN

SDS Preparation Date (mm/dd/yyyy): 05/03/2015

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **EPOXYBOND® CURE-ROT RESIN**

Product Code(s) : **Z100141, 112111, Z100142, 112113, Z100143, 112115, Z100001**

Recommended use of the chemical and restrictions on use

: Epoxy Resin
Use Pattern: Professional Use Only
Recommended Restrictions: None known.

Chemical family : Mixture

Name, address, and telephone number of the supplier:

Atlas Minerals and Chemicals Inc.

1227 Valley Road
Mertztown, PA, USA
19539

Supplier's Telephone # : 610-682-7171

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Amber liquid. Characteristic odor.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Skin Irritation - Category 2

Eye Damage/Irritation - Category 2A

Skin sensitization - Category 1

Carcinogenicity- Category 2

Specific Target Organ Toxicity, Repeated Exposure - Category 2

Label elements

Hazard pictogram(s)



Signal Word

WARNING!

Hazard statement(s)

Causes skin irritation.

Causes serious eye irritation.

May cause allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

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Precautionary statement(s)

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe fumes or vapors.
- Do not eat, drink or smoke when using this product.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves/clothing and eye/face protection.
- IF exposed or concerned: Get medical attention/advice.
- IF ON SKIN: Wash with plenty of soap and water.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists, get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

| <u>Chemical name</u> | <u>Common name and synonyms</u> | <u>CAS #</u> | <u>Concentration</u> |
|-------------------------------------|---------------------------------|--------------|----------------------|
| Bisphenol A / epichlorohydrin resin | Epoxy resin | 25068-38-6 | 60.0 - 90.0 |
| Alkyl glycidyl ether | Alkyl (C12-C14) glycidyl ether | 68609-97-2 | 10.0 - 15.0 |
| Furfuryl alcohol | 2-Furanmethanol | 98-00-0 | 1.0 - 5.0 |

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
- Inhalation* : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.
- Eye contact* : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Most important symptoms and effects, both acute and delayed

- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation. May cause respiratory irritation. May cause coughing and breathing difficulties. May cause eye irritation. Symptoms may include tearing, redness and discomfort. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause allergic skin reaction. Symptoms may include redness, itching and swelling. Suspected of causing cancer. May cause damage to the kidneys through prolonged or repeated exposure.

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Indication of any immediate medical attention and special treatment needed

: Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Carbon dioxide (CO₂); dry chemical; alcohol-resistant foam; water fog .

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labelled containers. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Do not breathe mist or vapors. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.

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- Conditions for safe storage** : Store locked up. Store in cool/well ventilated area. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking.
- Incompatible materials** : Oxidizing agents, mineral acids .

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

| <u>Chemical Name</u> | <u>ACGIH TLV</u> | | <u>OSHA PEL</u> | |
|-------------------------------------|------------------|-------------|--------------------------------|-------------|
| | <u>TWA</u> | <u>STEL</u> | <u>PEL</u> | <u>STEL</u> |
| Bisphenol A / epichlorohydrin resin | N/Av | N/Av | N/Av | N/Av |
| Alkyl glycidyl ether | N/Av | N/Av | N/Av | N/Av |
| Furfuryl alcohol | 10 ppm | 15 ppm | 50 ppm ; 200 mg/m ³ | N/Av |

Exposure controls

Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection

- : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing dust, mist or vapors. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Amber liquid.
- Odor** : Characteristic odor.
- Odor threshold** : No information available.
- pH** : No information available.
- Melting/Freezing point** : No information available.
- Initial boiling point and boiling range** : 112°C (250°F)
- Flash point** : 196°C (350°F)
- Flashpoint(Method)** : Cleveland closed cup
- Evaporation rate (BuAe = 1)** : (butyl acetate = 1) <1
- Flammability (solid, gas)** : Not applicable.

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Lower flammable limit (% by vol.) : Not applicable.
Upper flammable limit (% by vol.) : Not applicable.
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapor pressure : Low
Vapor density : (Air = 1) > 1
Relative density / Specific gravity : 1.1-1.2
Solubility in water : Moderate
Other solubility(ies) : No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : No information available.
Auto-ignition temperature : No information available.
Decomposition temperature : No information available.
Viscosity : Not available.
Volatiles (% by weight) : 5% by Volume
Volatile organic Compounds (VOC's) : No information available.
Absolute pressure of container : Not applicable.
Flame projection length : Not applicable.
Other physical/chemical comments : No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : Hazardous polymerization does not occur.
Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials : Oxidizing agents, mineral acids .
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : YES

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory irritation. Symptoms may include coughing and sneezing.

Sign and symptoms ingestion

: Ingestion may cause severe irritation to the mouth, throat and stomach.

Sign and symptoms skin

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 2 Causes skin irritation.

Sign and symptoms eyes

: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Eye Damage/Irritation - Category 2A Causes serious eye irritation.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification Carcinogenicity- Category 2

Suspected of causing cancer.

Contains: Furfuryl alcohol

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin sensitization - Category 1
May cause an allergic skin reaction.
Not expected to be a respiratory sensitizer.

Specific target organ effects

: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific Target Organ Toxicity, Repeated Exposure - Category 2
May cause damage to the kidneys through prolonged or repeated exposure.

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: No information available.

Toxicological data

: The calculated ATE values for this mixture are:

ATE oral =6600 mg/kg

ATE dermal = 28565.21 mg/kg

ATE inhalation (vapors) = 219 mg/l

| <u>Chemical name</u> | <u>LC₅₀(4hr)</u> <u>inh, rat</u> | <u>LD₅₀</u> | |
|--|--|------------------------|--------------------------|
| | | <u>(Oral, rat)</u> | <u>(Rabbit, dermal)</u> |
| Bisphenol A / epichlorohydrin resin | >791 mg/m ³ (dust) (no deaths) | 11400 mg/kg | >23500 mg/kg |
| Alkyl glycidyl ether | 0.15mg/L (No mortality) | 17100 mg/kg | >4.5mL/kg (No mortality) |
| Furfuryl alcohol | 233 ppm (0.937mg/L) | 132 mg/kg | 657 mg/kg |

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Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Contains material that may be harmful in the environment.

Do not release, unmonitored, into the environment.

Ecotoxicity data:

| <u>Ingredients</u> | CAS No | Toxicity to Fish | | |
|-------------------------------------|------------|---------------------------|---------------|----------|
| | | LC50 / 96h | NOEC / 21 day | M Factor |
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | 3.6 mg/L (Rainbow trout) | N/Av | None. |
| Alkyl glycidyl ether | 68609-97-2 | >100mg/L (Fathead minnow) | N/Av | None. |

| <u>Ingredients</u> | CAS No | Toxicity to Daphnia | | |
|-------------------------------------|------------|--------------------------|----------------------|----------|
| | | EC50 / 48h | NOEC / 21 day | M Factor |
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | 1.1-2.8mg/L (Water flea) | 0.3mg/L (Water flea) | None. |
| Alkyl glycidyl ether | 68609-97-2 | 7.2mg/L (Water flea) | N/Av | None. |

| <u>Ingredients</u> | CAS No | Toxicity to Algae | | |
|-------------------------------------|------------|--------------------------|-----------------------|----------|
| | | EC50 / 96h or 72h | NOEC / 96h or 72h | M Factor |
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | 9.4mg/L (Green algae) | 2.8mg/L (Green algae) | None. |
| Alkyl glycidyl ether | 68609-97-2 | 843.75(Green algae) mg/L | 500mg/L (Green algae) | |

Persistence and degradability

: Not expected to be rapidly biodegradable.

Bioaccumulation potential

: No data is available on the product itself.

| <u>Components</u> | <u>Partition coefficient n-octanol/ater (log Kow)</u> | <u>Bioconcentration factor (BCF)</u> |
|--|---|--------------------------------------|
| Bisphenol A / epichlorohydrin resin (CAS 25068-38-6) | >2.915 | |
| Alkyl glycidyl ether (CAS 68609-97-2) | 2.2-2.4 | 160-263 |
| Furfuryl alcohol (CAS 98-00-0) | N/Av | |

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

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- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in Sections 7 and 8.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

| Regulatory Information | UN Number | UN proper shipping name | Transport hazard class(es) | Packing Group | Label |
|---|-----------|-------------------------|----------------------------|---------------|---|
| 49CFR/DOT | None. | Not regulated. | not regulated | none |  |
| 49CFR/DOT Additional information | None. | | | | |
| TDG | None. | Not regulated. | not regulated | none |  |
| TDG Additional information | None. | | | | |
| IMDG | None. | Not regulated. | not regulated | none |  |
| IMDG Additional information | None. | | | | |
| ICAO/IATA | None. | Not regulated. | not regulated | none |  |
| ICAO/IATA Additional information | None. | | | | |

- Special precautions for user** : Appropriate advice on safety must accompany the package.
- Environmental hazards** : Contains material that may be harmful in the environment. See ECOLOGICAL INFORMATION, Section 12.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : This information is not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

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| Ingredients | CAS # | TSCA Inventory | CERCLA Reportable Quantity(RQ) (40 CFR 117.302): | SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355: | SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical | |
|-------------------------------------|------------|----------------|--|--|---|--------------------------|
| | | | | | Toxic Chemical | de minimus Concentration |
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | Yes | N/Ap | N/Av | No | N/Ap |
| Alkyl glycidyl ether | 68609-97-2 | Yes | N/Ap | N/Av | No | N/Ap |
| Furfuryl alcohol | 98-00-0 | Yes | N/Ap | N/Av | No | N/Ap |

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

| Ingredients | CAS # | California Proposition 65 | | State "Right to Know" Lists | | | | | |
|-------------------------------------|------------|---------------------------|------------------|-----------------------------|-----|-----|-----|-----|-----|
| | | Listed | Type of Toxicity | CA | MA | MN | NJ | PA | RI |
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | No | N/Ap | No | No | No | No | No | No |
| Alkyl glycidyl ether | 68609-97-2 | No | N/Ap | No | No | No | No | No | No |
| Furfuryl alcohol | 98-00-0 | No | N/Ap | Yes | Yes | Yes | Yes | Yes | Yes |

Canadian Information:

Canadian Environmental Protection Act (CEPA): All ingredients are present on the DSL.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this Safety Data Sheet contains all the information required by the CPR.

International Information:

Components listed below are present on the following International Inventory list:

| Ingredients | CAS # | European EINECs | Australia AICS | Philippines PICCS | Japan ENCS | Korea KECI/KECL | China IECSC | NewZealand IOC |
|-------------------------------------|------------|-----------------|----------------|-------------------|--------------------|-----------------|-------------|----------------|
| Bisphenol A / epichlorohydrin resin | 25068-38-6 | N/Av | Present | Present | (7)-1283 | KE-24000 | Present | HSR003180 |
| Alkyl glycidyl ether | 68609-97-2 | 271-846-8 | Present | Present | (2)-2426; (2)-2426 | KE-27545 | Present | HSR003837 |
| Furfuryl alcohol | 98-00-0 | 202-626-1 | Present | Present | (5)-31 | KE-17364 | Present | HSR002998 |

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- ATE: Acute Toxicity Estimate
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

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CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
- 2. International Agency for Research on Cancer Monographs, searched 2015.
- 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - October 2012 version.
- 6. California Proposition 65 List - December 26, 2014 version

Preparation Date (mm/dd/yyyy)

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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|--|--|
| <p><u>Prepared for:</u> Atlas Minerals and Chemicals Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171</p> |  |
| <p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p> |  |

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Atlas Minerals and Chemicals Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Atlas Minerals and Chemicals Inc.

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END OF DOCUMENT

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label: EPOXYBOND® CURE-ROT HARDENER

Product Code(s): Z100137, 112111, Z100138, 112113, Z100139, 112115

Recommended use of the chemical and restrictions on use:

Epoxy Curing Agent

Use Pattern: Professional Use Only

Recommended Restrictions: None known.

Chemical family: Mixture

Name, address, and telephone number of the supplier: **Name, address, and telephone number of the manufacturer:**

Atlas Minerals and Chemicals, Inc.
1227 Valley Road
Mertztown, PA, USA
19539

Refer to supplier

Supplier's Telephone #: 610-682-7171

24 Hr. Emergency Tel #: Chemtrec 1-800-424-9300 (Within Continental U.S.)
Chemtrec 703-527-3887 (Outside U.S.)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification

| | |
|-----------------------|---------|
| Acute oral toxicity | cat. 4 |
| Acute dermal toxicity | cat. 4 |
| Skin corrosion | cat. 1B |
| Skin sensitization | cat. 1 |
| Eye damage | cat. 1 |
| STOT-se/respiratory | cat. 3 |
| Aquatic chronic, | cat. 3 |

GHS label elements

Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

Harmful if swallowed.
Harmful in contact with skin.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Do not breathe mist/vapors/spray.
Wash hands and skin contact areas thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves / eye protection / face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do- continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store in a well ventilated area. Keep container tightly closed.
Store locked up.
Dispose of contents/container to a licensed/permitted incinerator or other thermal destruction facility in compliance with all applicable environmental control regulations.

OSHA GHS classification

This product is classified as hazardous as defined within the GHS OSHA Hazard Communication Standard 29CFR1910.1200.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Components | CAS Number | Concentration (Weight) |
|----------------------|------------|------------------------|
| Triethylenetetramine | 112-24-3 | 100 % |

EINECS No. 203-950-6

GHS/CLP: Acute tox. (oral) 4; Acute tox. (dermal) 4; Skin corros. 1B; Eye dam. 1; Skin sens. 1; STOT-se(resp.) 3; Aquatic acute 3; Aquatic chronic 3

SECTION 4. FIRST-AID MEASURES

Description of First Aid Measures

General advice: consult a physician; show this SDS to doctor in attendance.
In the event of skin contact: Rinse immediately with plenty of water; remove contaminated clothing; wash thoroughly with soap and water for at least 15 minutes. If irritation, rash or other adverse effects develop, get immediate medical attention.
In the event of eye contact: Bathe the eye with running water for at least 15 minutes, lifting upper and lower eyelids. Get medical attention immediately.
In the event of swallowing: Do NOT induce vomiting (danger of perforation of the esophagus and stomach). Rinse out mouth with water; drink several glasses of water. Call nearest Poison Center or physician immediately.
In the event of exposure by inhalation: Move person to fresh air and keep at rest in a position comfortable for breathing; if breathing is irregular, provide artificial respiration; if there are breathing difficulties, administer oxygen; get medical attention.

Most important symptoms and effects, both acute and delayed

Harmful in contact with skin, if swallowed or if inhaled; can cause severe skin burns and eye damage; may cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Eye wash stations and emergency showers should be available.

SECTION 5. FIRE-FIGHTING MEASURES

| | |
|---|--|
| Suitable extinguishing media | Carbon dioxide, alcohol resistant foam, dry chemical, water fog, limestone powder; use water spray to cool fire-exposed containers. |
| Specific hazards | Exposure to decomposition products may be harmful to health; combustion products may include but are not limited to: carbon monoxide, carbon dioxide, nitrogen oxides, ammonia, nitric acid; the formation of hydrocarbon fragments is possible in the initial stages of fire (especially in between 400°C and 700°C); smoke may contain particles of the original material as well. |
| Special protective equipment for fire-fighters: | Use protective firefighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. |
| Further information | Do not use high pressure water jet as this may spread the area of the fire. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|--|---|
| Personal Precautions, Protective Equipment, and Emergency Procedures | Isolate area; ensure adequate ventilation; use appropriate personal protection equipment; avoid breathing mist, vapors, spray; avoid contact with skin, eyes and clothing; keep unnecessary and unprotected personnel from entering the involved area. |
| Environmental precautions | Halt the flow of material as soon as practical using appropriate barriers; turn containers leak-side up to stop the escape of liquid. Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches, waterways by using sand, earth or appropriate barriers. |
| Methods for cleaning up | Soak up with sand, earth, diatomaceous earth or other suitable inert absorbent material; collect into suitable waste disposal containers. Reuse uncontaminated material when possible. Wash spillage site with large amounts of water. Dispose of in accordance with applicable local and federal environmental control laws and regulations. |
| Additional advice | For more information on exposure controls, personal protection and disposal, review data in section 8 and section 13 of this SDS. |

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Ensure adequate ventilation. Prevent: inhalation of mist/vapors/spray, ingestion, and contact with skin, eyes and clothing. Keep containers closed when not in use. Precautions apply to empty containers as well. Do not eat, drink or smoke in the work area. Keep ignition sources away - Do not smoke. Wash thoroughly after handling. Personal protective equipment must be worn during maintenance or repair of mixers, reactors or other equipment containing the material.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry area with adequate ventilation. Store away from foodstuffs. Recommended storage temperature: 2-40 °C (36-104°F).

Incompatibilities

Do not store together with strong oxidizing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Occupational exposure limits: AIHA WEEL: 6 mg/m³ (1 ppm)

Recommended monitoring procedures

If this product contains ingredients with exposure limits, 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. Reference can be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents for the determination of hazardous substances.

Exposure Controls:

Follow good industrial workplace practices; do not eat, drink or smoke while handling; wash hands before breaks and at end of work shift; follow recommendations in this SDS.

Appropriate engineering controls

Ensure adequate ventilation through local exhaust to control airborne concentrations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear tight-fitting chemical safety goggles and face shield to prevent eye contact. Refer to OSHA Standard 29CFR1910.133 and European Standard EN166.

Skin protection

Wear impervious clothing as necessary to protect against product contact. Necessity for boots, apron, face shield, etc. will be dependent on any hazards presented in the work process. Refer to CFR1910.132 and CFR1910.136 for OSHA approved standards on protective clothing and footwear.

Respiratory protection

Respiratory protection is required wherever exposure limits are exceeded; use a NIOSH approved organic vapor cartridge respirator following the guidelines of an established respiratory protection program in compliance with 29CFR1910.134. Note that air-purifying respirators are only recommended for use in atmospheres containing up to ten times the permissible exposure limit; if this higher level is exceeded, a supplied air respirator must be used; always consult respirator manufacturer instructions. Self-contained breathing apparatus should also be available in case of emergency.

Hand protection

Use suitable impervious neoprene, chloroprene or nitrile rubber gloves. When prolonged or frequently repeated contact may occur, glove material should have a breakthrough time that exceeds 480 minutes (breakthrough rating = 6); when only brief contact is expected, a glove with a lesser breakthrough rating (rating 2 = >30 minutes) may be suitable. Note the requirements of Standard EN 374.

Other Protective Equipment

The type and degree of personal protective equipment appropriate will depend on the specific work operation. Eye wash stations and emergency showers should be available. Inspect and replace personal protective equipment at regular intervals; use professional care in their selection, use and care.

Environmental exposure controls

Observe all precautions to prevent contamination of soil and waterways.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance: Liquid
Color: Clear to amber
Type of Odor: Amine-like

Odor Threshold: No data available

Important health, safety and environmental information

Initial Boiling Point: 275°C (526°F)
Melting Point: <0°C (-32°F)
Flammability Classification: Combustible IIIB
Flash Point: 118 °C (244°F)
Autoignition Temperature: 325°C (617°F)
Decomposition Temperature: >240 °C (>464°F)
Flammability Limits (lower/upper): LEL: 1.1% UEL: 6.4%
Vapor Pressure: <0.01 mm Hg @ 20°C
Vapor Density (Air=1): 5
Evaporation Rate (BuAc=1): <1
Octanol/Water Partition Coefficient (log Pow): -2.65
Specific Gravity: 0.98
Bulk Density: Not determined
Water Solubility: Soluble pH: 10-11
Viscosity: 25-35 cP @20°C
Explosive Properties: Not determined
Oxidizing Properties: Not determined
Molecular Formula: C6H18N4
Molecular Weight: 146.2

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No dangerous reaction is known under normal use and storage conditions.

Stability

Stable under normal use and storage conditions.

Possibility of hazardous reactions

Mixtures with strongly acidic or strongly alkaline materials may produce an exothermic reaction.

Conditions to avoid

Avoid elevated temperatures and sources of ignition.

Incompatible materials

Strong acids, strong oxidizing agents, strong reducing agents, acid chlorides, acid anhydrides, hypochlorites. Mixtures with nitrites may generate carcinogenic N-Nitrosamines.

Hazardous decomposition products

Thermal decomposition will generate carbon monoxide, carbon dioxide and nitrogen oxides, ammonia, nitric acid.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Oral Toxicity: LD50(rat): 1700 mg/kg
Acute Dermal Toxicity: LD50(rabbit): 1460 mg/kg
Acute Inhalation Toxicity: No data available
Skin Corrosion/Irritation: Draize Test: Rabbit/skin: Corrosive
Serious Eye Damage/Irritation: Draize Test: Rabbit/eye: Corrosive
Skin Sensitization (guinea pig): Sensitizer
Mutagenicity: Negative results from *in vitro* and *in vivo* mammalian animal studies.
Carcinogenicity: Not classified as carcinogenic.

Reproductive Toxicity: Not classified as reproductive toxin.

Specific Target Organ Toxicity- single exposure (STOT-se): Respiratory irritation.

Specific Target Organ Toxicity- repeated exposure (STOT-re): Product not classified based on available data.

Aspiration Hazard: Yes (alkaline material)

Potential Health Effects:

Skin Contact: Corrosive to skin and mucous membranes; may be absorbed through the skin; may cause itching, reddening, blistering, inflammation, severe burns and skin damage; may cause an allergic reaction.

Eye Contact: Corrosive! Vapors are irritating and may cause irritation, tearing, redness; contact may cause severe burns and permanent eye damage, even blindness.

Ingestion: Corrosive; swallowing can cause severe burns of the mouth, throat and stomach; can cause sore throat, vomiting, diarrhea, stomach pains.

Inhalation: Can cause severe irritation of mucous membranes and upper respiratory tract; may cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting; high concentrations may cause lung damage; may cause allergic reaction in sensitive individuals.

Chronic Health Effects:

May cause target organ damage (respiratory). May cause an allergic skin reaction; once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. May cause damage to kidneys, lungs, liver.

Additional Information: RTECS No. YE6650000

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Acute/prolonged toxicity to fish

LC50 (Pimephales promelas)(96-hr): 330 mg/l

Acute/prolonged toxicity to aquatic invertebrates

EC50 (Daphnia magna)(48-hr): 31.1 mg/l

Acute/prolonged toxicity to aquatic plants

EC50 (Green algae)(72-hr): 20 mg/l

Toxicity to bacteria, to soil dwelling organisms and to terrestrial plants

EC50 (Bacteria, growth inhibition)(16-hr): 680 mg/l

Chronic toxicity to aquatic organisms

NOEC (Algae)(72-hr): <2.5 mg/l

EC10 (Daphnia)(21-d): 1.9 mg/l

EC10 (Bacteria)(30-min): 42.5 mg/l

General effect

Harmful to aquatic life with long lasting effects.

Persistence and degradability

20% elimination at 84 days (not readily biodegradable; will biodegrade slowly in the environment)

Bioaccumulative potential

Octanol/water partition coefficient (Log Pow): -2.65 (low potential to bioaccumulate)

Mobility in soil

Potential for mobility in soil is very high.

Results of PBT and vPvB assessment (EC reg. 453/2010)

Product not classified as Persistent, Bioaccumulative and Toxic. Product not classified as very Persistent or very Bioaccumulative.

German WGK classification

WGK = 1 (self-classification)

Other adverse effects

No other adverse effects are identified.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal: Do not dump to ground, sewers or watercourses. Incinerate or otherwise dispose of in compliance with all applicable federal, state and local environmental control laws and regulations. Waste characterization according to RCRA guidelines and compliance with applicable laws are the responsibility solely of the waste generator.

Container Disposal: Containers should be drained of all residual product prior to disposal.

SECTION 14. TRANSPORTATION INFORMATION

DOT Proper Shipping Description:

UN2259 Triethylenetetramine
Hazard Class 8 PG II

IMDG:

UN2259 Triethylenetetramine
Hazard Class 8 PG II

IATA:

UN2259 Triethylenetetramine
Hazard Class 8 PG II

TDG

UN2259 Triethylenetetramine
Hazard Class 8 PG II

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact an ATLAS customer service representative

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Title III Section 311/312 (40CFR370): Acute health hazard, chronic health hazard

SARA Title III Section 313 (40CFR372): No reportable components

CERCLA Status (40CFR302): No reportable components

(Release of a hazardous substance into the environment in an amount that equals or exceeds its reportable quantity (RQ) requires notification to the National Response Center at 800-424-8802.)

RCRA Status (40CFR261): Not listed

OSHA/NTP/IARC Carcinogen Status: Not listed

TSCA Inventory Status: Reported/included

Canadian DSL Status: Reported/included

Canadian WHMIS Status: D2A, D2B, E

Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity: None known to be in the product at levels requiring a warning.

REACH Annex XIV (SVHC) No listed components

REACH Annex XVII (Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles)

No listed components

REACH Status (EC 1907/2006)

This material has been registered, pre-registered or is otherwise exempted from registration under the Registration, Evaluation and Authorization of Chemical Substances.

Chemical safety assessment

Not available

SECTION 16. OTHER INFORMATION

Legend

ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial Chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/AP: Not Applicable
N/AV: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible Exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012 version.
6. California Proposition 65 List - December 26, 2014 version

Other special considerations for handling

Provide adequate information, instruction and training for operators.

SDS Authored By:

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