
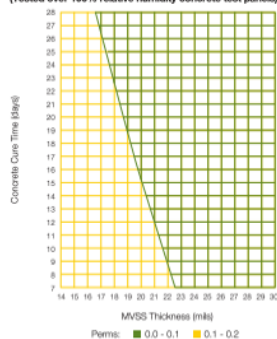


TECHNICAL & SAFETY DATA SHEET

Technical Data Sheet		 POLYMER NATION CHEMICAL COMPANY, LLC
P-99 3K MVE Primer		
<p>Product Overview: P-99 is a state of the art, moisture vapor suppression system epoxy primer. It employs a modified epoxy backbone to achieve deep penetration and alkali resistance. This deep penetrating, tenacious bonding material, when properly installed, reduces moisture vapor emission rates, through concrete, to .1 or less. This allows for subsequent coating of troubled concrete with non-permeable floor finishes.</p> <p>Uses: P-99 is used when concrete testing, per ASTM F2170, shows average RH readings between 75% and 99% or when moisture vapor emissions are suspected and an additional level of moisture protection is desired. P-99 is installed directly to properly prepare concrete. Testing shows P-99 performs well both on concrete prepared to a, ICRI, CSP 2 and CSP 3*.</p> <p>Preparation: The preparation method for each project is determined by a full understanding of the substrate to be coated, the chemistry of the coating system being used, the coating system thickness, and numerous other factors. The coating installer should fully read and understand ICRI Guideline NO.03732 and OSHA 29 CFR 1926.1153 before starting preparatory work. The aim, of preparing a substrate for coating applications, is to roughen the surface, remove weak layers, contaminants, dirt, debris and present a solid, clean, dry substrate for the primer. If unsure as to the level of preparation needed, contact Polymer Nation at Lab@polymerNation.com.</p> <p>The data below represents the most pertinent information needed by a professional installer to understand and efficiently install this material. The data was gathered at temperatures of 72-75 F and 30-50% RH. A wide array of independent and company test data has been compiled on this product but is too large to place on this Technical Data Sheet. Please direct inquiries for detailed test reports on this product to Lab@polymerNation.com.</p>		
Description	Results	Notes
Kit Yield in Gallons	3	A kit consists of 2 gal A, 1 gal B and 1-4.5 lb jar of C (PN 1425).
Number of Components	3	
Mix Ratio Liquids by Weight	2:1 see Mixing & Installation	Do not split kits.
Ideal Application Temperatures	60F-90F	Verify that substrate temperature is above 5 degrees of dewpoint during application and cure of material to avoid a potential amine blush
Mixed Viscosity in cP@25C/77F	700-1000	Warmer temperatures will reduce viscosity and lower temperatures will increase viscosity
Gel Time	17-20 min.	Warmer temperatures will decrease gel time and lower temperatures will increase gel time
Dry to Touch	3.25 Hours	Warmer temperatures will reduce time and colder temperatures will increase time
Through Dry	6 Hours	Warmer temperatures will reduce time and colder temperatures will increase time
Dry to Walk	8 Hours	Warmer temperatures will reduce time and colder temperatures will increase time
Dry to Lightly Use	16 Hours	Warmer temperatures will reduce time and colder temperatures will increase time
Full Cure	7 Days	Warmer temperatures will reduce time and colder temperatures will increase time
Shore Hardness at 24 hours	D65	Warmer temperatures will increase hardness
Shore Hardness at 7 days	D78	Warmer temperatures will shorten time to reach full hardness
Gloss @ 60 Degree Angle	80-90	Applying material close to dew point will decrease gloss and may result in an amine blush
VOC's of Mixed Material	<50g/L	EPA Method 24
Color Scale per ASTM D1500	5-1.0	Clear to slightly amber
Solids by Volume Mixed	100%	
Storage	60F-90F	Store material between 60-90 degrees F in a protected dry location.
Odor	Very Subtle	
Application Thickness in Mil	16 mils in one coat or two 10 mil applications. See Mixing and Installation below.	
Disposal	Dispose of material, containers, solvents, etc., per Federal, State and local guideline, rules and laws	
Available Colors	Blackish-brown once part C is added.	
Mixing & Installation	Combine all of part A and B into a single container, large enough to accept the entire kit. Mix at 350 RPM for 3-4 minutes using an appropriate mixing blade and making sure not to introduce excessive air into the solution. Slowly add Part C and continue mixing for an additional 1 minute or until material is homogenous. Pour the entire content from the container onto the floor and follow normal squeegee and back roll or cut and roller techniques. Successful material performance requires a monolithic, pinhole-free finish. Achieving this finish is dependent on the substrate condition and the installers skill lever. While independent testing shows one, 16 mil application performs at a perm rate of .052/.068*, it is best, when performance is most critical, to apply in two, 10 mil applications and to test for holidays using a high voltage holiday detector. Recoat within 24 hours. Clean tools with a solvent similar to Xylene or Acetone.	
<p>Polymer Nation believes the information contained herein to be true and accurate. Information contained herein is for evaluation purposes only. Polymer Nation makes no warranty, express or implied based upon this literature and assumes no liability or responsibility for consequential or incidental damages as a result of the use of these products and systems described herein, including any warranty of merchantability or fitness. Last Rev. 4.14.22</p> <p style="text-align: center;">PolymerNation.com</p>		

Moisture Vapor Transmission as a Function of Concrete Cure Time and MVSS Thickness (Tested over 100% relative humidity concrete test panels)



Green indicates Class I Vapor Diffusion Retarder capability as predicted by the test model. Minimum coating film thickness for obtaining the Class I rating depends on the specific field application conditions.

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Section 1. Product and company identification

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GHS product identifier : MSDS Number : Product type : Material uses :

Manufacturer / Supplier / Importer :

Contact person : Telephone :

EPONTM RESIN 233 300000019860

Epoxy Resin

Manufacture of surface coatings.

Westlake Epoxy Inc.

12650 DIRECTORS DR STE 100 Stafford, Texas 77477

USA

epoxyservice@westlake.com

For additional health and safety or regulatory information, call 1 888 443 9466.

Emergency telephone number

: For Emergency Medical Assistance

Call Health & Safety Information Services

1-866-30 3- 69 4 9

For Emergency Transportation Information

NCEC US Domestic +1 866 928 0789 (toll-free, US only) NCEC Americas +1 215 207 0061

CANUTEC CA Domestic (613) 996-6666

Section 2. Hazards identification

Classification of the substance or mixture

GHS label elements Hazard pictograms

Signal word Hazard statements

: SKIN IRRITATION - Category 2

EYE IRRITATION - Category 2A

SKIN SENSITISATION -Category 1

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE [central nervous system(CNS)] - Category 1

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE Respiratory tract irritation - Category 3

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE [liver, skin] - Category 1

:

: Danger

: H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

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H370 Causes damage to organs:(central nervous system(CNS)) H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure: (liver, skin)

: Not applicable.

: Wear protective gloves.

Wear eye or face protection.

Use only outdoors or in a well-ventilated area.

Do not breathe vapor.

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.

: IF exposed:

Call a POISON CENTER or doctor.

IF INHALED:

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

IF ON SKIN:

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Wash with plenty of water.

If skin irritation or rash occurs:

Get medical advice or 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 or attention.

: Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

: None known.

Section 3. Composition/information on ingredients

Precautionary statements General

Prevention

R e s p o n s e

Storage D i s p o s a l

S u b s t a n c e / m i x t u r e : M i x t u r e **Ingredient name**

4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer Formaldehyde, polymer with (chloromethyl)oxirane and phenol

Other hazards which do not result in classification

% by weight

50 - 75 25 - 50

CAS number 25068-38-6 9003-36- 5

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EPONTM RESIN 233 Page:3/17 Alkyl glycidyl ether (Proprietary) 0 - 5 * *

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

** The specific chemical identity/proportion of this component is considered trade secret information in accordance with 29 CFR 1910.1200.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures Description of necessary first aid measures

Eye contact :

Inhalation :

Skincontact :

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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.

Wash with plenty of soap and 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. Get medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed 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 necessary, call a poison center or physician. 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.

I n g e s t i o n

:

Indication of immediate medical attention and special treatment needed, if necessary

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Notes to physician Specific treatments

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: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

: No specific treatment.

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Protection of first aid personnel

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media

Specific hazards arising from the chemical

Hazardous thermal decomposition products

Special protective actions for fire-fighters

Special protective equipment for fire-fighters

: Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog). : Do not use water jet.

: In a fire or if heated, a pressure increase will occur and the container may burst.

: Decomposition products may include the following materials: carbon dioxide
carbon monoxide halogenated compounds

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

For emergency responders

: 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 material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

: 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).

Environmental

precautions

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble,

absorb with an inert dry material and place in an appropriate waste

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Large spill

disposal container. Dispose of via a licensed waste disposal contractor. : Stop leak if without risk. Move containers from spill area. Approach

release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage Precautions for safe handling

Protective measures

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Advice on general occupational hygiene

Conditions for safe storage, including any incompatibilities

- : Put on appropriate personal protective equipment (see section 8 of SDS). 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 when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- : 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 and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- : 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 of SDS) and food and drink. Store locked up. 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.

Section 8. Exposure controls/personal protection Control parameters

Occupational exposure limits Ingredient name

4,4'-Isopropylidenediphenol- Epichlorohydrin Copolymer

Formaldehyde, polymer with (chloromethyl)oxirane and phenol

Exposure limits

None. None.

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Alkyl glycidyl ether (Proprietary)

Recommended monitoring procedures

Appropriate

None.

- : 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 should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- : 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.
- : 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.
- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- : 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.
- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- : Based on the hazard and potential for exposure, select a respirator that *Date of issue/Date of revision: 09/20/2022 Date of previous issue: 07/14/2022*

engineering controls

Environmental exposure controls

Individual protection measures Hygiene measures

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Eye/face protection

Skinprotection Hand protection

Body protection Other skinprotection

Respiratory protection

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meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties Appearance

Physical state Color

Odor

Odor threshold

pH

Melting point/ Freezing point Boiling point

Flash point

Burning time

Burning rate

Evaporation rate Flammability (solid, gas) Lower and upper explosive (flammable) limits

Vapor pressure

Vapor density Relative density Density

S o l u b i l i t y Solubility in water

Partition coefficient: n- octanol/water

Auto-ignition temperature Decomposition temperature S ADT

Viscosity

Other information

No additional information.

: Liquid : yellow.

: practically odorless : Not available

: Not available

: Not available

: 200 °C (392 °F) (DIN 53171)

: Greater than 250 °C (482 °F) (ISO 2719)

: Not available

: Not available

: Not available

: Not available

: **Lower:** Not available

Upper: Not available

: Less than 0.1 hPa @ 20 °C (68 °F)

: Not available

: Not available

: 1.17 g/cm³ (DIN 53217)

: Not available : Negligible

: Not applicable.

: Not available

: Not available

: Not available

: **Dynamic:** 600 mPa·s @ 25 °C (77 °F) (DIN 53015)

Kinematic: Not available

Section 10. Stability and reactivity

Reactivity

Chemical stability Possibility of hazardous reactions

: Stable under normal conditions.

: The product is stable.

: Under normal conditions of storage and use, hazardous reactions will not occur.

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Conditions to avoid

Incompatible materials

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Hazardous decomposition products

- : Strong oxidizer,
- : No specific data.
- : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects Acute toxicity

Product/ingredient name Result Species

4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer LD50 Oral Rat LD50 Dermal Rat
Formaldehyde, polymer with (chloromethyl)oxirane and phenol

Dose Exposure

11,400 mg/kg - 2,000 mg/kg -
> 2,000 mg/kg - > 2,000 mg/kg -
> 11.3 mg/l
1,130 mg/kg -

Exposure

LD50 Oral

LD50 Dermal Alkyl glycidyl ether (Proprietary)

Rat Rabbit

Rat

LD50 Oral

Rat

1,163 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)

-
LC50 Inhalation LD50 Dermal

:

Result

4 h

Observation

Conclusion/Summary Irritation/Corrosion

Product/ingredient name

Rabbit Not available

Species

Score

4,4'-Isopropylidenediphenol- Epichlorohydrin Copolymer
Skin - Erythema/Echthyma 404 Acute Dermal Irritation/Corrosion

Rabbit

1.5 - 2

-

Skin - Edema 404 Acute Dermal Irritation/Corrosion

Rabbit

1.0 - 1.5

-

eyes-- 405 Acute Eye Irritation/Corrosion

Rabbit

0

-

eyes - Redness of the conjunctiva

Rabbit

0.7

-

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e

Skin - Moderate irritant Skin - Severe irritant eyes - Mild irritant

Rabbit Rabbit Rabbit

24 hrs - 24 hrs - -

Formaldehyde, polymer with (chloromethyl)oxirane and phenol

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Skin - Erythema/E schar 404 Acute Dermal Irritation/Corrosion

Rabbit

0.7

4 hrs

72 hrs

Skin - Edema 404 Acute Dermal Irritation/Corrosion

Rabbit

0

4 hrs

4 - 504 hrs

eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion

Rabbit

0

1 - 168 hrs

eyes - Iris lesion 405 Acute Eye Irritation/Corrosion

Rabbit

0

1 - 168 hrs

eyes - Redness of the conjunctiva e 405 Acute Eye Irritation/Corrosion

Rabbit

0

1 - 168 hrs

eyes - Edema of the conjunctiva e 405 Acute Eye Irritation/Corrosion

Rabbit

0

1 - 168 hrs

Skin - Mild irritant

Rabbit

24 hrs -

Alkyl glycidyl ether (Proprietary)

Skin - Erythema/E schar 404 Acute

Rabbit

0

24 - 72 hrs

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Dermal Irritation/Corrosion

Skin - Edema 404 Acute Dermal Irritation/Corrosion

Rabbit

0

24 - 72 hrs

Skin - Erythema/E schar OPP 81-5 Acute Dermal Irritation

Rabbit

2.5

24 hrs

Skin - Edema OPP 81-5 Acute Dermal Irritation

Rabbit

2.3

24 hrs

eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion

Rabbit

1.22

24 - 72 hrs

eyes - Iris lesion 405 Acute Eye Irritation/Corrosion

Rabbit

0.78

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24 - 72 hrs
eyes - Edema of the conjunctiva e 405 AcuteEye Irritation/Corrosion
Rabbit
2.33
24 - 72 hrs
eyes - Redness of the conjunctiva e 405 AcuteEye Irritation/Corrosion
Rabbit
2.22
24 - 72 hrs
eyes - Moderate irritant Skin - Moderate irritant
Rabbit Rabbit
- 24 hrs -

Conclusion/ Summary

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Skin : eyes :

Not available Not available Not available

Respiratory

Sensitization

Product/ingredient name

4,4'-Isopropylidenediphenol- Epichlorohydrin Copolymer

:

Route of exposure

Species

See Remarks

Result

Sensitizing

Skin

Remarks:

In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study.

Conclusion/ Summary

Skin :

Skin sensitizer Not available

Respiratory

Mutagenicity

Product/ingredient name

4,4'-Isopropylidenediphenol- Epichlorohydrin Copolymer

Formaldehyde, polymer with (chloromethyl)oxirane and phenol

Conclusion/ Summary Carcinogenicity

Conclusion/ Summary Reproductive toxicity Conclusion/ Summary Teratogenicity

Conclusion/ Summary

:

Test

-

Experiment

; Mammalian- Animal

In vivo; Mammalian- Animal

Result

Negative

Remarks:

Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not

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induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500 mg/kg as measured by alkaline elution.

-
:
:
:
:
:
Negative

Remarks:

When Bisphenol F Diglycidylether was evaluated for genotoxicity potential in multiple GLP in vivo assays including the mouse micronucleus, rat in vivo/in vitro UDS and MutaMouse tests no evidence of genotoxicity was observed. The results of other in vivo tests for genotoxicity also supported these negative findings for BPFDEGE. Therefore, Bisphenol F Diglycidylether is not genotoxic in vivo.

Not available
Not available
Not available
Not available

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Specific target organ toxicity (single exposure)

Name

Formaldehyde, polymer with 2- (chloromethyl)oxirane and phenol Alkyl glycidyl ether (Proprietary)

Category

Category 3
Category 1
Category 3

Route of exposure

Route of exposure

--

Target organs

Respiratory tract irritation
central nervous system (CNS)
Respiratory tract irritation

Target organs

skin liver

Specific target organ toxicity (repeated exposure)

Name

Alkyl glycidyl ether (Proprietary)

Aspiration hazard

Not available

Information on likely routes of exposure

Potential acute health effects Eye contact

Symptoms related to the physical, chemical and toxicological characteristics

Category

Category 1 Category 2

:
Not available

: Inhalation :

Causes serious eye irritation.

Causes damage to organs following a single exposure if inhaled. May cause respiratory irritation.

Causes skin irritation. May cause an allergic skin reaction.

Skincontact :

In g e s t i o n : Causes damage to organs following a single exposure if swallowed.

Eye contact

Inhalation

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:
:

Adverse symptoms may include the following: pain or irritation
watering
redness

Adverse symptoms may include the following: respiratory tract irritation
coughing

Adverse symptoms may include the following: irritation
redness

No specific data.

Skincontact :

In g e s t i o n :

Delayed and immediate effects as well as chronic effects from short and long-term exposure Short term exposure

Potential immediate effects Potential delayed effects

: Not available : Not available

: Not available

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Long term exposure Potential immediate effects

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Potential delayed effects Potential chronic health effects **Conc l u s i o n/ S u m m a r y**

General

:

::

:::::

Oral

N/A

Not available

Not available

Causes damage to organs through prolonged or repeated exposure: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards. No known significant effects or critical hazards.

Carcinogenicity **Mutagenicity** **Teratogenicity** **De v e l o p m e n t a l** **Fertility effects**

e f f e c t s

Numerical measures of toxicity **Acute toxicity estimates**

Product/ingredient name

EPONTM RESIN 233

Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol

Alkyl glycidyl ether (Proprietary)

Other information

2,500 mg/kg N/A

Dermal

37,666.7 mg/kg

2,500 mg/kg 1,130 mg/kg

Inhalation **Inhalation (gases) (vapors)**

N/A 366.7 mg/l

N/A N/A N/A 11 mg/l

Inhalation (dusts and mists)

N/A

N/A N/A

Phenol, 4,4'-(1- methylethylidene)bis -, polymer with 2- (chloromethyl)oxirane

11,400 mg/kg

N/A

N/A

N/A

N/A

: No known significant effects or critical hazards.

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Section 12. Ecological information

Toxicity

Product/ingredient name Result

bis-[4-(2,3-epoxipropoxy)phenyl]propane

Acute LC50 1.3 mg/l - 203 Fish, Acute

Toxicity Test

Acute EC50 2.1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

Acute LC50 > 11 mg/l -

Chronic No-observable-effect- concentration 0.3 mg/l semi-static test 211 Daphnia Magna Reproduction Test

Species

Fish - Fish

Aquatic invertebrates. Waterflea

Aquatic plants - Algae Aquatic invertebrates. Water flea

Exposure

96 h 48 h

72 h 21 d

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Formaldehyde, polymer with (chloromethyl)oxirane and phenol Acute LC50 2.54 mg/l -

Fish - Fish 96h Aquatic invertebrates. 48h Waterflea

Aquatic plants - Algae 72h

Fish - Zebra danio 96h

Aquatic invertebrates. 24h Water flea

Aquatic plants - Algae 72h

Acute EC50 2.55 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

Acute EC50 > 1,000 mg/l - 201 Alga, Growth Inhibition Test

Acute LC50 24 mg/l - 203 Fish, Acute Toxicity Test Acute EC50 76 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

Acute EC50 110 mg/l - 201 Alga, Growth Inhibition Test

: Not available

: Not available

LogPow

2.64 - 3.78 3.3 -0.269-0.15

Alkyl glycidyl ether (Proprietary)

Conclusion/Summary Persistence/degradability Conclusion/Summary

Bioaccumulative potential Product/ingredient name

bis-[4-(2,3-epoxipropoxy)phenyl]propane Formaldehyde, polymer with (chloromethyl)oxirane and phenol Alkyl glycidyl ether (Proprietary)

Mobility in soil

Soil/water partition coefficient

(KOC)

Other adverse effects

BCF

Potential

3 - 31 31.00 low 150 150.00 low - low

Section 13. Disposal considerations

: Not available

: No known significant effects or critical hazards.

Disposal methods

: The generation of waste should be avoided or minimized possible. 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 local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken

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when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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wherever

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Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory UN/NA information number

CFR Non-regulated

TDG Non-regulated

Classes/*PG

Class 9 III

Class 9 III

: Yes.

Reportable Quantity (RQ)

IMO/IMDG 3082

IATA (Cargo) 3082

*PG : Packing group

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Proper shipping name

Environmentally hazardous and/or Marine Pollutant

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons

transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information United States

U.S. Federal regulations

: **United States - TSCA 12(b) - Chemical export notification:** None required.

United States - TSCA 5a2 - Final significant new use rules: Not listed **United States - TSCA 5a2 - Proposed significant new use rules:** Not listed

United States - TSCA 5(e) - Substances consent order: Not listed **SARA 311/312 Classification - SKIN IRRITATION,** Category 2

SARA 311/312 Classification - EYE IRRITATION, Category 2A

SARA 311/312 Classification - SKIN SENSITISATION, Category 1 **SARA 311/312 Classification - SPECIFIC**

TARGET ORGAN TOXICITY - SINGLE EXPOSURE, central nervous system(CNS), Category 1

SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY

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California Prop. 65:

- SINGLE EXPOSURE, Respiratory tract irritation, Category 3

SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE, liver, skin, Category 1

SARA 311/312 Classification - Not applicable

This product does not require a Safe Harbor warning under California Prop. 65. **United States inventory (TSCA :** All components are active or exempted.

8b)

Trade Secret International regulations

: The claim for trade secret has been granted in Canada under HMIRC #9563, February 3, 2016

: **Canada inventory:** All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Korea inventory (KECI): All components are listed or exempted.

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New Zealand Inventory (NZIoC): All components are listed or exempted. **Philippines inventory (PICCS):** All components are listed or exempted. **United States inventory (TSCA 8b):** All components are active or exempted. **Taiwan inventory (TCSI):** All components are listed or exempted.

International lists

Section 16. Other information

Hazardous Material Information System III (U.S.A.) : *2

1 0

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 MSDSs 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. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Flammability

Physical hazards

Full text of abbreviated H s statements

History

Date of printing

Date of issue/Date of revision Date of previous issue Version

Prepared by

Key to abbreviations

: Not applicable.

: 11/28/2022 : 09/20/2022 : 07/14/2022 : 4.0

: Product Safety Stewardship

ATE=Acute Toxicity Estimate BCF = Bioconcentration Factor

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:

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References Notice to reader

GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Mar pol" = maritime pollution)

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

UN = United Nations : Not available

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY EPIKURE™ CURING AGENT 3393

Section 1. Product and company identification

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GHS product identifier : MSDS Number : Product type : Material uses :

Manufacturer / Supplier / Importer :

Contact person : Telephone :

EPIKURE™ CURING AGENT 3393 300000019861

Curing Agent

Manufacture of surface coatings.

Westlake Epoxy Inc.

12650 DIRECTORS DR STE 100 Stafford, Texas 77477

TECHNICAL & SAFETY DATA SHEET

USA

epoxyservice@westlake.com

For additional health and safety or regulatory information, call 1 888 443 9466.

Emergency telephone number

: For Emergency Medical Assistance

Call Health & Safety Information Services

1-866-30 3- 69 4 9

For Emergency Transportation Information

NCEC US Domestic +1 866 928 0789 (toll-free, US only) NCEC Americas +1 215 207 0061

CANUTEC CA Domestic (613) 996-6666

Section 2. Hazards identification

Classification of the substance or mixture

: ACUTE TOXICITY oral - Category 4

ACUTE TOXICITY dermal - Category 4 ACUTE TOXICITY inhalation - Category 4 SKIN CORROSION - Category 1B

SERIOUS EYE DAMAGE - Category 1 RESPIRATORY SENSITISATION - Category 1 SKIN SENSITISATION -

Category 1

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE Respiratory tract irritation - Category 3

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE Narcotic effects - Category 3

SPECIFIC TARGET ORGAN TOXICITY - REPEATED

EXPOSURE [central nervous system(CNS), respiratory tract, skin] - Category 1

GHS label elements

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Hazard pictograms

Signal word Hazard statements

:

: Danger

: H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H372 Causes damage to organs through prolonged or repeated exposure: (central nervous system(CNS), respiratory tract, skin)

: Not applicable.

: Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection.

Use only outdoors or in a well-ventilated area.

Do not breathe vapor.

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.

: IF INHALED:

Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

If experiencing respiratory symptoms:

Call a POISON CENTER or doctor.

IF SWALLOWED:

Immediately call a POISON CENTER or doctor.

Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair):

Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.

Wash contaminated clothing before reuse.

IF ON SKIN:

Call a POISON CENTER or doctor if you feel unwell.

Wash with plenty of water.

If skin irritation or rash occurs:

Get medical advice or attention.

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IF IN EYES:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

: Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

: Dispose of contents and container in accordance with all local, *Date of issue/Date of revision: 09/20/2022 Date of previous issue: 07/14/2022*

Precautionary statements General

Prevention

Response

Storage Disposal *Version:*

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EPIKURETM CURING AGENT 3393 Page:3/15 regional, national and international regulations.

Other hazards which do not result : None known. in classification

Section 3. Composition/information on ingredients

Substance / mixture Ingredient name

:

Mixture

Cycloaliphatic Amine (Proprietary) Aromatic Alcohol (Proprietary) Amine-Epoxy Resin Adduct (Proprietary)

Aliphatic Amine (Proprietary)

Organic Acid (Proprietary)

% by weight CAS number

25-50 ** 25-50 ** 10-25 ** 10-25 ** 0-10 **

Any concentration shown as a range is to protect confidentiality

** The specific chemical identity/proportion of this component is considered trade secret information in accordance with 29 CFR 1910.1200.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures Description of necessary first aid measures

or is due to batch variation.

Eye contact :

Inhalation :

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

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Skincontact :

mouth-to-mouth resuscitation. 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. In the event of any complaints or symptoms, avoid further exposure.

Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed 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. Chemical burns must be treated promptly by a physician. 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.

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Ingestion

:

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Specific treatments

Protection of first aid personnel

: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

: No specific treatment.

: No action shall be taken involving any personal risk or without

suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media

Specific hazards arising from the chemical

Hazardous thermal decomposition products

Special protective actions for fire-fighters

: Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog). : Do not use water jet.

: In a fire or if heated, a pressure increase will occur and the container may burst.

: Decomposition products may include the following materials: carbon dioxide
carbon monoxide nitrogen oxides

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

: Fire-fighters should wear appropriate protective equipment and self- *Version: 4.0 Date of issue/Date of revision: 09/20/2022 Date of previous issue: 07/14/2022*

Special protective equipment for

EPIKURETM CURING AGENT 3393 Page:5/15 fire-fighters contained breathing apparatus (SCBA) with a full face-piece operated

in positive pressure mode.

Section 6. Accidental release measures Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

For emergency responders

: 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 material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

: 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).

Environmental

precautions

Methods and material for containment and cleaning up

Small spill

Large spill

: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures :

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Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease 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 when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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Advice on general occupational hygiene

Conditions for safe storage, including any incompatibilities

: 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 and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

: 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 of SDS) and food and drink. Store locked up. 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.

Section 8. Exposure controls/personal protection Control parameters

Occupational exposure limits Ingredient name

Cycloaliphatic Amine (Proprietary) Aromatic Alcohol (Proprietary)

Amine-Epoxy Resin Adduct (Proprietary)

Exposure limits

None.

AIHA WEEL (1999-01-01) TWA - TLV and PEL 10 ppm

None.

Aliphatic Amine (Proprietary)

ACGIH TLV (1994-09-01) CEIL 0.1 mg/m³

Notes: Absorbed through skin. **OSHA PEL 1989 (1989-03-01) CEIL** 0.1 mg/m³

Notes: Absorbed through skin.

NIOSH REL (1994-06-01) CEIL 0.1 mg/m³

Notes: Absorbed through skin.

Organic Acid (Proprietary)

Recommended monitoring procedures

Appropriate engineering controls

None.

: 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 should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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Environmental exposure controls

Individual protection measures Hygiene measures

Eye/face protection

Skin protection Hand protection

Body protection Other skin protection

Respiratory protection

: 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.

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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: 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

: 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.

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties Appearance

Physical state Color

Odor

Odor threshold

: Liquid : yellow.

: amine.

: Not available

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pH

Melting point/ Freezing point Boiling point

Flash point

Burning time

Burning rate

Evaporation rate Flammability (solid, gas) Lower and upper explosive (flammable) limits

Vapor pressure Vapor density Relative density Density

S o l u b i l i t y Solubility in water

Partition coefficient: n- octanol/water

Auto-ignition temperature Decomposition temperature S ADT

Viscosity

Other information

No additional information.

: Not available

: Not available

: Not determined

: Greater than 100 °C (212 °F) (ISO 2719)

: Not available

: Not available

: Not available

: Not available

: **Lower:** Not available

Upper: Not available : Not available

: Not available : Not available : 1.04 g/cm³

: Not available : Negligible

(DIN 53217)

: Not applicable.

: Not available

: Not available

: Not available

: **Dynamic:** 800 - 1,200 mPa·s @ 25 °C (77 °F) (ISO 9371)

Kinematic: Not available

Section 10. Stability and reactivity

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Reactivity

Chemical stability Possibility of hazardous reactions

Conditions to avoid

Incompatible materials

Hazardous decomposition products

: Stable under normal conditions.

: The product is stable.

: Under normal conditions of storage and use, hazardous reactions will not occur.

: No specific data.

: No specific data.

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects Acute toxicity

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Product/ingredient name Result

Cycloaliphatic Amine (Proprietary)

LD50 Oral

LD50 Oral

Remarks - Inhalation: No applicable toxicity data.

Remarks - Dermal: No applicable toxicity data. Aromatic Alcohol (Proprietary)

Species

Rat

Dose

1,030 1,030

mg/kg mg/kg

Exposure

--

- 4h -

- 1h 4h 4h -

--

Observation

Rat

LD50 Oral

LC50 Inhalation LD50 Dermal

LD50 Oral

LC50 Inhalation LC50 Inhalation LC50 Inhalation LD50 Dermal

LD50 Oral LD50 Dermal

:

Result

Skin - Moderate irritant Skin - Severe irritant eyes - Severe irritant

Rat Rat Rabbit

Rat

Rat

Rat

Rat - Female Rabbit

Rat

Rabbit Not available

1,230 >4.178 mg/l 2,000 mg/kg

930 mg/kg 3.89 mg/l 2.4 mg/l

0.8 mg/l 2,000 mg/kg

891 mg/kg

> 10,000 mg/kg

Exposure

24 hrs 24 hrs 24 hrs

mg/kg

Aliphatic Amine (Proprietary)

Organic Acid (Proprietary)

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Conclusion/Summary Irritation/Corrosion

Product/ingredient name

Aromatic Alcohol (Proprietary) Aliphatic Amine (Proprietary)

Conclusion/Summary Skin

eyes

Respiratory

Sensitization

Conclusion/Summary Skin

Respiratory Mutagenicity

Conclusion/Summary Carcinogenicity

Conclusion/Summary Reproductive toxicity

Species

Rabbit Rabbit Rabbit

Score

:::

:::

:

:

Not available Not available Not available

Not available Not available

Not available

Not available

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Conclusion/Summary Teratogenicity Conclusion/Summary

: Not available

: Not available **Specific target organ toxicity (single exposure)**

Name

Cycloaliphatic Amine (Proprietary)

Aromatic Alcohol (Proprietary)

Amine-Epoxy Resin Adduct (Proprietary)

Category

Category 3

Category 3 Category 3 Category 3

Route of exposure

-

Route of exposure

--

Target organs

-

-

-

Respiratory tract irritation

Target organs

central nervous system (CNS)

respiratory tract, skin

Specific target organ toxicity (repeated exposure)

Name

Aromatic Alcohol (Proprietary)

Amine-Epoxy Resin Adduct (Proprietary)

Aspiration hazard

Not available

Information on likely routes of exposure

Potential acute health effects Eye contact

depression.

Symptoms related to the physical, chemical and toxicological characteristics

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Category

Category 1 Category 1

: Inhalation :

Causes serious eye damage.

Harmful if inhaled. Can cause central nervous system(CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.

:

Not available

Skincontact :

In g e s t i o n : Harmful if swallowed. Can cause central nervous system(CNS)

Eye contact

Inhalation

: Adverse symptoms may include the following: pain

watering

redness

: Adverse symptoms may include the following:

respiratory tract irritation coughing

wheezing and breathing difficulties asthma

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Skincontact :

In g e s t i o n :

nauseaorvomiting

headache

drowsiness/fatigue

dizziness/vertigo

unconsciousness

Adverse symptoms may include the following: pain or irritation

redness

blistering may occur

Adverse symptoms may include the following: stomach pains

Delayed and immediate effects as well as chronic effects from short and long-term exposure Short term exposure

Potential immediate effects : Potential delayed effects :

Long term exposure

Potential immediate effects :

Potential delayed effects : Potential chronic health effects

Conc l u s i o n / S u m m a r y : General :

Carcinogenicity : Mutagenicity :

Teratogenicity : De v e l o p m e n t a l e f f e c t s :

Not available Not available

Not available Not available

Not available

Causes damage to organs through prolonged or repeated exposure: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

No known significant effects or critical hazards.

No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Fertility effects

Numerical measures of toxicity Acute toxicity estimates

Product/ingredient name

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Cycloaliphatic Amine (Proprietary)

Aromatic Alcohol (Proprietary)

Amine-Epoxy Resin Adduct (Proprietary)

: No known significant effects or critical hazards. No known significant effects or critical hazards.

Oral

889.2 mg/kg 1,030 mg/kg 1,230 mg/kg 500 mg/kg

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Dermal

2,000 mg/kg 1,100 mg/kg N/A

1,100 mg/kg

Inhalation (gases) (vapors)

N/A N/A N/A N/A N/A N/A N/A N/A

Inhalation (dusts and mists)

3.8 mg/l N/A

1.5 mg/l N/A

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Aliphatic Amine (Proprietary) 930 mg/kg N/A Organic Acid (Proprietary) 891 mg/kg N/A

Section 12. Ecological information

Toxicity

Product/ingredient name Result

Cycloaliphatic Amine (Proprietary)

N/A N/A

N/A N/A

1.5 mg/l N/A

Exposure

48h 48h

96h 96h

48h 21d

Species

Remarks-Acute-Fish:

Remarks-Acute-Aquatic invertebrates: Remarks-Acute-Aquatic plants: Remarks - Chronic - Fish:

Remarks - Chronic - Aquatic invertebrates: Aromatic Alcohol (Proprietary)

Organic Acid (Proprietary)

Conclusion/Summary Persistence/degradability Conclusion/Summary

Bioaccumulative potential Product/ingredient name

Cycloaliphatic Amine (Proprietary) Aromatic Alcohol (Proprietary) Aliphatic Amine (Proprietary) Organic Acid (Proprietary)

Mobility in soil

Soil/water partition coefficient

(KOC)

Other adverse effects

No applicable toxicity data.

Acute EC50 17.4 mg/l Fresh water

Acute EC50 17.4 mg/l Fresh water Acute

No applicable toxicity data.

No applicable toxicity data.

No applicable toxicity data.

Acute LC50 10,000 µg/l Fresh water Acute LC50 460,000 µg/l Fresh water

Acute EC50 870 mg/l Fresh water

Chronic No-observable-effect- concentration 5.6 mg/l Fresh water

: Not available

: Not available

LogPow BCF 0.99 -

1.1 - 0.18 2.69 2.21-2.26 -

Aquatic invertebrates. Daphnia

Aquatic invertebrates. Daphnia

Fish - Fish Fish - Fish

Aquatic invertebrates. Daphnia

Aquatic invertebrates. Daphnia

Potential

low low low low

: Not available

: No known significant effects or critical hazards.

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Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. 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 local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information CFR

TDG

IMO/IMDG

IATA (Cargo)

UN/NA number 2735

2735

2735

2735

Proper shipping name

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine)

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine)

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine)

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic Amine)

Classes/*PG Reportable Quantity (RQ)

Class 8 III

Class 8 III

Class 8 III

Class 8 III

*PG : Packing group

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons

transporting the product know what to do in the event of an accident or spillage.

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Section 15. Regulatory information United States

U.S. Federal regulations

: **United States - TSCA 12(b) - Chemical export notification:** None required.

United States - TSCA 5a2 - Final significant new use rules: Not listed **United States - TSCA 5a2 - Proposed significant new use rules:** Not listed

United States - TSCA 5(e) - Substances consent order: Not listed **SARA 311/312 Classification - ACUTE TOXICITY,** oral, Category 4 **SARA 311/312 Classification - ACUTE TOXICITY,** dermal, Category 4 **SARA 311/312 Classification - ACUTE TOXICITY,** inhalation, Category 4

SARA 311/312 Classification - SKIN CORROSION, Category 1B

SARA 311/312 Classification - SERIOUS EYE DAMAGE, Category 1 **SARA 311/312 Classification - RESPIRATORY SENSITISATION,** Category 1

SARA 311/312 Classification - SKIN SENSITISATION, Category 1 **SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE,** Respiratory tract irritation, Category 3

SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE, Narcotic effects, Category 3

SARA 311/312 Classification - SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE, central nervous system(CNS), respiratory tract, skin, Category 1

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SARA 311/312 Classification - Not applicable

California Prop. 65:

This product does not require a Safe Harbor warning under California Prop. 65. **United States inventory (TSCA)** : All components are active or exempted.

8b)

Trade Secret

International regulations International lists

: The claim for trade secret has been granted in Canada under HMIRC #9564, February 3, 2016.

: **New Zealand Inventory (NZIoC)**: All components are listed or exempted. **Canada inventory**: All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Korea inventory (KECI): All components are listed or exempted. **Philippines inventory (PICCS)**: All components are listed or exempted. **United States inventory (TSCA 8b)**: All components are active or exempted. **Taiwan inventory (TCSI)**: All components are listed or exempted.

Section 16. Other information Hazardous Material Information System III (U.S.A.) :

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*3 1 0

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 MSDSs 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. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Flammability

Physical hazards

Full text of abbreviated H s tatements

Hi s t o r y

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Prepared by

: Not applicable.

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: Product Safety Stewardship

Key to abbreviations :

ATE=Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG= International Maritime Dangerous Goods LogPow=logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

RID= The Regulations concerning the International Carriage of Dangerous Goods by Rail

UN= United Nations

References Notice to reader

: Not available

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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