Canada

Material Safety Data Sheet

FOR INDUSTRIAL USE ONLY

EPIKURE (TM) Curing Agent MGS LH 335

Product and company identification

Product name

EPIKURE# Curing Agent MGS LH 335 drum 200KG

MSDS Number

16S-00034

Synonym Material uses

HÄRTER 335 Hardener for resins.

Validation date Print date

04/07/2013 08/07/2013

Manufacturer, Importer,

Supplier

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Telephone

General information:

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Emergency telephone number

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Hazards identification

Emergency overview

Physical state

Liquid

Color Odor

Blue.

Signal word

Amine-like. DANGER!

Hazard statements

CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF

INHALED. INHALATION CAUSES HEADACHES, DIZZINESS,

DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT

IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE

Classificatio n: Genpact Confidential 1.1

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TARGET ORGAN DAMAGE. CONTAINS MATERIAL WHICH MAY

CAUSE HERITABLE GENETIC EFFECTS.

Precautionary measures Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not get in eyes. Do not get

on skin. Do not eat, drink or smoke when using this product. Avoid prolonged contact with eyes, skin and clothing. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly

after handling.

Potential acute health effects

Inhalation Toxic by inhalation. Can cause central nervous system (CNS) depression.

Irritating to respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious

effects may be delayed following exposure.

Ingestion Harmful if swallowed. Can cause central nervous system (CNS) depression.

Corrosive to the digestive tract. Causes burns.

Skin Corrosive to the skin. Causes burns. Harmful in contact with skin. May

cause sensitization by skin contact.

Eyes Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects Contains material that can cause target organ damage. Once sensitized, a

severe allergic reaction may occur when subsequently exposed to very low

levels.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity Contains material which may cause heritable genetic effects.

Teratogenicity No known significant effects or critical hazards. **Developmental effects** No known significant effects or critical hazards. Fertility effects No known significant effects or critical hazards.

Target organs Contains material which causes damage to the following organs:

kidneys liver

gastrointestinal tract upper respiratory tract

skin eyes

central nervous system (CNS)

Over-exposure signs/symptoms

Inhalation Adverse symptoms may include the following:

nausea or vomiting respiratory tract irritation

coughing headache

drowsiness/fatigue dizziness/vertigo

wheezing and breathing difficulties

unconsciousness

asthma

Ingestion Adverse symptoms may include the following:

stomach pains

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Skin

Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur

Eyes

Adverse symptoms may include the following:

pain watering redness

Medical conditions aggravated

by over-exposure

Pre-existing respiratory and skin disorders and disorders involving any

other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
m-Xylenea., .a.'-Diamine	1477-55-0	>=10 - <30
4,4'-Isopropylidenediphenol	80-05-7	>=10 - <30
Poly(oxypropylene) diamine MW 230	9046-10-0	>=10 - <30
Benzyl Alcohol	100-51-6	>=10 - <30
Isophorone Diamine	2855-13-2	>=10 - <30
Trimethyl-1,6-Hexanediamine	25620-58-0	>=5 - <10

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.

4. First aid measures

Eye contact

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and

lower eyelids. Get medical attention immediately.

Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash

clothing before reuse. Clean shoes thoroughly before reuse. Get medical

attention immediately.

Inhalation

Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or

waistband. Get medical attention immediately.

Ingestion

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious

person. Get medical attention immediately.

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.

Notes to physician

In case of inhalation of decomposition products in a fire, symptoms may be

delayed. The exposed person may need to be kept under medical

surveillance for 48 hours.

Fire-fighting measures

Flammability of the product In a fire or if heated, a pressure increase will occur and the container may

burst.

Extinguishing media

Suitable

Use an extinguishing agent suitable for the surrounding fire.

Not suitable

None known.

Special exposure hazards

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.

Hazardous thermal decomposition products Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides

Special protective equipment

for fire-fighters

Fire-fighters should wear appropriate protective equipment and selfcontained breathing apparatus (SCBA) with a full face-piece operated in

positive pressure mode.

Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8 of SDS).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for 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 disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

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.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see section 8 of SDS). 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. 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. Avoid exposure - obtain special instructions before use. 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.

Storage

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. 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.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient	Exposure limits
m-Xylenea., .a.'-Diamine	ACGIH TLV (1994-09-01) Ceiling Limit Value 0.1 mg/m3
4,4'-Isopropylidenediphenol	OSHA PEL Time Weighted Average (TWA) 5 mg/m3 (respirable particulate) OSHA PEL Time Weighted Average (TWA) 15 mg/m3 (total dust)
Benzyl Alcohol	

Consult local authorities for acceptable exposure limits.

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

Engineering measures

: 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.

Hygiene measures

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.

Personal protection

Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an

> approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected

respirator.

Hands 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.

Eyes 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 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.

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.

Environmental exposure

controls

Skin

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.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state Liquid Color Blue.

Odor Amine-like. Odor threshold Not available Not available

Melting point/freezing point Not available Initial boiling point and boiling 200 °C

range

Flash point 100 °C (ISO 2719)

Evaporation rate Not available Flammability (solid, gas) Not available : Burning time Not available **Burning** rate Not available :

Upper/lower flammability or Lower: Not available explosive limits Upper: Not available Vapor pressure

0.3 hPa @ 20 °C

Vapor density Relative density Solubility(ies) Solubility in water

Not available Not available Not available Negligible

Partition coefficient: n-

octanol/water

Not available

Auto-ignition temperature

Not available Not available

Decomposition temperature Viscosity

Dynamic-: Not available Kinematic -: Not available

9.2 Other information

No additional information.

10. Stability and reactivity

Reactivity

Stable under normal conditions.

Chemical stability

The product is stable. No specific data.

Conditions to avoid Incompatible materials

No specific data.

Hazardous decomposition

products

Under normal conditions of storage and use, hazardous decomposition

products should not be produced. Under normal conditions of storage and use, hazardous reactions will not

Possibility of hazardous

occur.

reactions

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
m-Xylenea., .a.'-Diamine				- A: : : : : : :
	LD50 Oral	Rat	930 mg/kg	-
	LC50 Inhalation	Rat	3.89 mg/l 700 ppm	1 h
	LC50 Inhalation	Rat	2.4 mg/l	4 h
	LC50 Inhalation	Rat - Female	0.8 mg/l	4 h
	LD50 Dermal	Rabbit	2,000 mg/kg	-
4,4'-Isopropylidenediphenol				•
	LD50 Oral	Rat	3,250 mg/kg	-
	LD50 Dermal	Rabbit	3,000 mg/kg	-
Poly(oxypropylene) diamine	MW 230			·
	LD50 Oral	Rat	2,880 mg/kg	-
	LD50 Dermal	Rabbit	2,980 mg/kg	-
Benzyl Alcohol				
	LD50 Oral	Rat	1,230 mg/kg	-
	LC50 Inhalation	Rat	> 4.178 mg/l	4 h
	LD50 Dermal	Rabbit	2,000 mg/kg	-
Isophorone Diamine				· · · · · · · · · · · · · · · · · · ·
	LD50 Oral	Rat	1,030 mg/kg	-
Trimethyl-1,6-Hexanediamin	e			
	LD50 Oral	Rat	910 mg/kg	-

Conclusion/Summary

Not available

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Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
4,4'-Isopropylidenediphenol				
		-	300 ppm	-
Remarks:	studies. Toxic le		dder effects were obserted in weight loss in lal as a consequence.	

Conclusion/Summary

: Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4,4'-Isopropylidenediphenol	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	0	4 hrs	1 - 72 hrs
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	0	4 hrs	1 - 72 hrs
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	1		-
	eyes - Iris lesion 405 Acute Eye Irritation/Corrosion	Rabbit	1		-
	eyes - Redness of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	1		-
	eyes - Edema of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	1-2		-

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Conclusion/Summary

Skin: Not availableEyes: Not availableRespiratory: Not available

Sensitization

Conclusion/Summary

Skin : Not available Respiratory : Not available

Carcinogenicity

Conclusion/Summary : Not available

Mutagenicity

Conclusion/Summary : Not available

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Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
4,4'-Isopropylidenediphenol			-	-
Remarks:	Another study on the effects of laboratory rats and mice exposed during pregnancy concluded that even doses high enough to be toxic to the pregnant animals did not alter fetal development of the pups.			

Conclusion/Summary

Not available

Reproductive toxicity

Conclusion/Summary

Not available

SECTION 12: Ecological information

12.1Toxicity

Ecotoxicity

No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
4,4'-Isopropylidenediphenol			
	Acute LC50 4.6 mg/l Fresh water	Fish - Fathead minnow	96 h
	Acute NOEC 0.016 mg/l Fresh water Chronic ecotoxicity	Fish - Fathead minnow	444 d
	Acute EC50 1 - 16 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
	Acute NOEC 1.8 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
	Acute EC50 2.73 mg/l Fresh water	Aquatic plants - Microalgae	96 h
	Chronic NOEC 0.016 mg/l Fresh water	Fish - Fathead minnow	444 d
	Chronic NOEC 1.8 mg/l Fresh water	Aquatic invertebrates. Water flea	-
Benzyl Alcohol			
	Acute LC50 460,000 μg/l Fresh water	Fish - Fathead minnow	96 h

Conclusion/Summary

Not available

12.2 Persistence and degradability

Conclusion/Summary

Not available

Partition coefficient: n-

Not available

octanol/water

Other adverse effects

No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental

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protection and waste disposal legislation and any regional local authority requirements. 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

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	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
TDG	2735	POLYAMINES, LIQUID, CORROSIVE, N.O.S.	Class 8 III	
IMO/IMDG	2735	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (m-XYLILENEDIAMINE)	Class 8 III	
IATA (Cargo)	2735	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (m-XYLILENEDIAMINE)	Class 8 III	

^{*}PG: Packing group

15. Regulatory information

United States

HCS Classification

Toxic material

Corrosive material Sensitizing material Target organ effects

U.S. Federal regulations

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

United States - TSCA 5(a)2 - Final significant new use rules: Not listed United States - TSCA 5(a)2 - Proposed significant new use rules: Not

listed

United States - TSCA 5(e) - Substances consent order: Not listed SARA 302 Extremely Hazardous Substances: None required. SARA 302/304/311/312 hazardous chemicals: None required. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting	:	Phenol, 4,4'-(1-	80-05-7	10 - 30
requirements		methylethylidene)bis-		
Supplier notification	:	Phenol, 4,4'-(1-	80-05-7	10 - 30
		methylethylidene)bis-		

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

United States inventory (TSCA:

8b)

All components are listed or exempted.

All components are listed or exempted.

<u>Canada</u>

WHMIS (Canada)

Class D-1B: Material causing immediate and serious toxic effects (Toxic).

Class D-2B: Material causing other toxic effects (Toxic).

Class E: Corrosive material

Canadian lists

Canadian NPRI

The following components are listed: Phenol, 4,4'-(1-methylethylidene)bis-

CEPA Toxic substances

The following components are listed: Phenol, 4,4'-(1-

methylethylidene)bis-

Canada inventory

At least one component is not listed in DSL but all such components are

listed in NDSL.

At least one component is not listed in DSL but all such components are

listed in NDSL.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists

: Philippines inventory (PICCS): All components are listed or exempted.

New Zealand Inventory (NZIoC): Not determined. Korea inventory: All components are listed or exempted.

Japan inventory: Not determined.

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

Australia inventory (AICS): Not determined. Australia inventory (AICS): Not determined.

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Taiwan inventory (CSNN): Not determined.

Malaysia Inventory (EHS Register): Not determined.

Japan inventory: Not determined.

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

Korea inventory: All components are listed or exempted. New Zealand Inventory (NZIoC): Not determined.

Philippines inventory (PICCS): All components are listed or exempted.

16.Other information

Label requirements

CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF

INHALED. INHALATION CAUSES HEADACHES, DIZZINESS,

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CAUSE HERITABLE GENETIC EFFECTS.

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

Health	*	3	
		1	
Physical process.		0	
Continu HMIGO			

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.

Date of printing 08/07/2013 Date of issue 04/07/2013 Date of previous issue 04/07/2013 Version 1.1

Prepared by WAGERSKS

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