01793-XXXX



SAFETY DATA SHEET

FAMOWOOD GLAZE COAT RESIN (Combine with 1085061)

Section 1. Identification

Product name : FAMOWOOD GLAZE COAT RESIN (Combine with 1085061)

Product code : 1085060

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

Identified uses

Consumer product.

Supplier's details : Eclectic Products LLC

990 Owen Loop North Eugene, OR 97402 541-484-9621

Responsible name

Emergency telephone number (with hours of

operation)

: Regulatory Affairs: INFOTRAC

1-800-535-5053 001-352-323-3500

24 hours per day, 7 days per week.

Section 2. Hazards identification

OSHA/HCS status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

: ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 GERM CELL MUTAGENICITY - Category 2

GHS label elements

Hazard pictograms





Signal word

: Warning

Hazard statements

: H302 - Harmful if swallowed.

H319 - Causes serious eye irritation.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction. H341 - Suspected of causing genetic defects.

Precautionary statements

Prevention

: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

P261 - Avoid breathing vapor.

P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.

Section 2. Hazards identification

Response : P308 + P313 - IF exposed or concerned: Get medical attention.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you

feel unwell. Rinse mouth.

P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash

contaminated clothing before reuse.

P333 + P313 - If skin irritation or rash occurs: Get medical attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical attention.

Storage : P405 - Store locked up.

Disposal P501 - Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Hazards not otherwise classified

Inhalation

Skin contact

Ingestion

: None known.

Section 3. Composition/information on ingredients

Substance/mixture

Ingredient name	%	CAS number
	≥75 - ≤90 ≥10 - ≤25	25068-38-6 2210-79-9

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

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

: 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.

: Remove person to fresh air and keep at rest in a position comfortable for breathing. 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 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. 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. Remove person to fresh air and keep at rest in a position comfortable for breathing. 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.

them: Numbers: \$1793/1996; \$1798-1997; \$1793; 1009 : 4/11/2019 Version : 1.06 Page 2 05272

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. 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

: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing

media

: None known.

Specific hazards arising from the chemical

Tom the offermour

: In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide halogenated compounds

Special protective actions for fire-fighters

: 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.

Special protective equipment for fire-fighters

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

: 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.

For emergency responders

If specialized 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".

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials 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 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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Advice on general occupational hygiene

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.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	None.
2,3-epoxypropyl o-tolyl ether	None.

Appropriate engineering controls

: 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.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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.

Eye/face protection

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

Skin protection

Hand protection

: 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.

Body protection

: 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.

Other skin protection

: 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.

Respiratory protection

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

<u>Appearance</u>

Physical state : Liquid.
Color : Clear.
Odor : Slight
Odor threshold : Not available.
pH : 10.71

Section 9. Physical and chemical properties

Melting point : Not available.

Boiling point : >121.11°C (>250°F)

Flash point : Not available.

Evaporation rate : <1 (ether (anhydrous) = 1)

Flammability (solid, gas) : Not available. Lower and upper explosive : Not available.

(flammable) limits

: 2.7 kPa (20 mm Hg) [room temperature] Vapor pressure

Vapor density : >1 [Air = 1] Relative density

Partition coefficient: n-

octanol/water

: Not available.

: Not available. **Auto-ignition temperature Decomposition temperature** : Not available.

Viscosity : Dynamic (room temperature): 1450 to 1900 mPa·s (1450 to 1900 cP)

Kinematic (40°C (104°F)): 12.609 to 16.522 cm²/s (1260.9 to 1652.2 cSt)

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

: No specific test data related to reactivity available for this product or its ingredients. Reactivity

Chemical stability : The product is stable.

Possibility of hazardous

reactions

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

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition

products

: 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	Dose	Exposure
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin	LC50 Inhalation Dusts and mists	Rat	6.09 mg/l	4 hours
2,3-epoxypropyl o-tolyl ether	LD50 Dermal LD50 Oral LC50 Inhalation Dusts and mists	Rat	20000 mg/kg 15000 mg/kg 6090 mg/m³	- - 4 hours
	LD50 Oral	Rat	4 g/kg	-

Irritation/Corrosion

Version : 1.06 Page 6 06272 them Numbers: \$1783/1996; \$1798-1897; \$1783; 1009 : 4/11/2019

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
2,3-epoxypropyl o-tolyl ether	Skin - Severe irritant	Rabbit	-	24 hours 500 microliters	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

routes of exposure

: Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

. No known significant effects of chitical hazards.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

<u>ประกับ เกาะเราะ 1.06 Page 7 07/272</u>

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects: Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : Suspected of causing genetic defects.

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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	582.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin	EC50 1.7 mg/l	Crustaceans	48 hours
	LC50 1.41 mg/l Acute EC50 11 mg/l Acute EC50 1.8 mg/l	Fish Aquatic plants Daphnia	96 hours 72 hours 48 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
reaction product: bisphenol-A-	-	-	Not readily
(epichlorhydrin); epoxy resin			-

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin	2.64 to 3.78	31	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

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

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.

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.

Transport in bulk according to Annex II of MARPOL and the IBC Code

: Not available.

Section 15. Regulatory information

U.S. Federal regulations

Clean Air Act Section 602

Class I Substances

: Not listed

Clean Air Act Section 602

: Not listed

Class II Substances

Version : 1.06 Page 9 05272 them: Numbers: \$1783/1996; \$1798-1997; \$1793; 1009 : 4/11/2019

Section 15. Regulatory information

DEA List I Chemicals (Precursor Chemicals)

: Not listed

DEA List II Chemicals

: Not listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	hazard	Sudden release of pressure		Immediate (acute) health hazard	Delayed (chronic) health hazard
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin		No.		No.	Yes.	No.
2,3-epoxypropyl o-tolyl ether	≥10 - ≤25	No.	No.	No.	Yes.	No.

State regulations

Massachusetts: None of the components are listed.New York: None of the components are listed.New Jersey: None of the components are listed.Pennsylvania: None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan inventory (ENCS): Not determined.

Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Section 15. Regulatory information

Philippines: All components are listed or exempted.Republic of Korea: All components are listed or exempted.Taiwan: All components are listed or exempted.Thailand: Not determined.

Turkey : All components are listed or exempted.
United States : All components are listed or exempted.

Viet Nam : Not determined.

Section 16. Other information

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

Health	*	2
Flammability		0
Physical hazards		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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

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.

National Fire Protection Association (U.S.A.)



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
GERM CELL MUTAGENICITY - Category 2	Calculation method

History

Date of issue/Date of : 4/11/2019

revision Version

: 1.06

Section 16. Other information

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)

UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Votice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

ውክት መምና ፡ 3 ነገራ Page 12 95 24/2 Version : 1.06 Page 12 95 24/2



SAFETY DATA SHEET

FAMOWOOD GLAZE COAT HARDENER (Combine with 1085060)

Section 1. Identification

Product name : FAMOWOOD GLAZE COAT HARDENER (Combine with 1085060)

Product code : 1085061

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

Identified uses

Consumer product.

Supplier's details : Eclectic Products LLC

990 Owen Loop North Eugene, OR 97402 541-484-9621

Responsible name

Emergency telephone number (with hours of

operation)

: Regulatory Affairs

: INFOTRAC 1-800-535-5053

001-352-323-3500

24 hours per day, 7 days per week.

Section 2. Hazards identification

OSHA/HCS status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

: ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1

TOXIC TO REPRODUCTION (Unborn child) - Category 1B TOXIC TO REPRODUCTION (Fertility) - Category 2

GHS label elements

Hazard pictograms :







Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction. H360 - May damage the unborn child. H361 - Suspected of damaging fertility.

Precautionary statements

Section 2. Hazards identification

Prevention : P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

P261 - Avoid breathing vapor.

P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.

Response : P308 + P313 - IF exposed or concerned: Get medical attention.

P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Immediately call a POISON CENTER or physician.

P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER

or physician. Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing

before reuse. Immediately call a POISON CENTER or physician.

P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash

contaminated clothing before reuse.

P333 + P313 - If skin irritation or rash occurs: Get medical attention.

P305 + P351 + P338 + P310 - 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 physician.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Hazards not otherwise

classified

: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
4-nonylphenol, branched	≥50 - ≤75	84852-15-3
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-	≥10 - ≤25	9046-10-0
aminomethylethoxy)-		
2-piperazin-1-ylethylamine	≤10	140-31-8
2-(2-aminoethylamino)ethanol	<1	111-41-1

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

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

: 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.

Section 4. First aid measures

Inhalation

: Get medical attention immediately. Call a poison center or physician. Remove person 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. 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 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.

Skin contact

: 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.

Ingestion

: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove person to fresh air and keep at rest in a position comfortable for breathing. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

pain watering redness

Inhalation : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

Section 4. First aid measures

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

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.

Specific treatments

: No specific treatment.

Protection of first-aiders

: 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

: None known.

Unsuitable extinguishing media

Specific hazards arising from the chemical

: In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

Decomposition products may include the following materials: carbon dioxide

: Use an extinguishing agent suitable for the surrounding fire.

carbon monoxide nitrogen oxides

Special protective actions for fire-fighters

: 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.

Special protective equipment for fire-fighters

: 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

: 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.

For emergency responders:

: If specialized 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".

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Advice on general occupational hygiene

: 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.

Conditions for safe storage, : including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits	
4-nonylphenol, branched	None.	
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	None.	
2-piperazin-1-ylethylamine	None.	
2-(2-aminoethylamino)ethanol	None.	

Appropriate engineering controls

: 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.

Section 8. Exposure controls/personal protection

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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.

Eye/face protection

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

Skin protection

Hand protection

: 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.

Body protection

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.

Other skin protection

: 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.

Respiratory protection

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 : Liquid.
Color : Clear.
Odor : Amine-like.
Odor threshold : Not available.
pH : 10.95

Melting point : Not available.

Boiling point : >100°C (>212°F)

Flash point : Open cup: >112.78°C (>235°F)

Evaporation rate : >1 (butyl acetate = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive : Not available.

(flammable) limits

Vapor pressure : Not available.
Vapor density : >1 [Air = 1]

Section 9. Physical and chemical properties

Relative density : 0.96

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): 150 to 1150 mPa·s (150 to 1150 cP)

Kinematic (40°C (104°F)): 8.8542 to 11.979 cm²/s (885.42 to 1197.9 cSt)

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous

reactions

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

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products

: 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	Dose	Exposure
4-nonylphenol, branched	LD50 Oral	Rat	1300 mg/kg	-
Poly[oxy(methyl-1,2-	LD50 Dermal	Rabbit	360 mg/kg	-
ethanediyl)], α-(2-				
aminomethylethyl)-ω-(2-				
aminomethylethoxy)-				
	LD50 Oral	Rat	242 mg/kg	-
2-(2-aminoethylamino)ethanol	LD50 Dermal	Rat	2250 mg/kg	-
	LD50 Oral	Rat	3 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4-nonylphenol, branched	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
2-piperazin-1-ylethylamine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 5	-

<u>ชตายิงตัวเราชาใช้ 1009</u> : 4/11/2019 Version : 1.04 Page 19 07/2/5

Section 11. Toxicological information

				milligrams	
2-(2-aminoethylamino)ethanol	Eyes - Severe irritant	Rabbit	-	50 milligrams	-
•	Skin - Mild irritant	Rabbit	-	445	-
				milligrams	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name		Route of exposure	Target organs
2-(2-aminoethylamino)ethanol	Category 3	• • •	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

routes of exposure

: Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact

: Causes serious eye damage.

Inhalation

: No known significant effects or critical hazards.

Skin contact

: Causes severe burns. May cause an allergic skin reaction.

Ingestion

: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: Adverse symptoms may include the following:

pain watering redness

Inhalation

: Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Section 11. Toxicological information

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

stomach pains

reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity: May damage the unborn child.

Developmental effects: No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	943.6 mg/kg

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
4-nonylphenol, branched	EC50 0.0848 mg/l	Daphnia	48 hours
	Acute EC50 0.03 mg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 0.027 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 137 μg/l Marine water	Crustaceans - Eohaustorius estuarius - Adult	48 hours
	Acute LC50 17 µg/l Marine water	Fish - Pleuronectes americanus - Larvae	96 hours
	Chronic EC10 0.012 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Chronic NOEC 5 µg/l Fresh water	Crustaceans - Gammarus fossarum - Adult	21 days
	Chronic NOEC 7.4 µg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
2-piperazin-1-ylethylamine 2-(2-aminoethylamino)ethanol	Acute LC50 2190000 µg/l Fresh water Acute EC50 22 mg/l Acute LC50 640 mg/l	Fish - Pimephales promelas Daphnia Fish	96 hours 48 hours 96 hours

Persistence and degradability

Product/ingredient name	Test	Result		Dose	Inoculum
2-(2-aminoethylamino)ethanol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	>97 % - 28 days		-	-
Product/ingredient name	Aquatic half-life		Photolysis	i	Biodegradability
2-(2-aminoethylamino)ethanol	-	-			Readily

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
4-nonylphenol, branched Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-2-piperazin-1-ylethylamine 2-(2-aminoethylamino)ethanol	5.4 1.34 -1.48 -1.46	740 - - <0.2	high low low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

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

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	1760	1760	1760	1760	1760	1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Polyoxypropylene Diamine, Nonyl Phenol)	CORROSIVE LIQUID, N.O.S. (Nonyl Phenol, Polyoxypropylene Diamine)	CORROSIVE LIQUID, N.O.S. (Polyoxypropylene Diamine, Nonyl Phenol)	CORROSIVE LIQUID, N.O.S. (Polyoxypropylene Diamine, Nonyl Phenol)	CORROSIVE LIQUID, N.O.S. (Nonyl Phenol, Polyoxypropylene Diamine)	CORROSIVE LIQUID, N.O.S. (Polyoxypropylene Diamine, Nonyl Phenol)
Transport hazard class(es)	8 Control of the second of th	8	8	8	8	8
Packing group	III	Ш	III	Ш	III	III
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification

: This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. Limited quantity Yes.

Remarks Limited quantity See applicable regulations.

TDG Classification

 Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
 The marine pollutant mark is not required when transported by road or rail.
 Remarks Limited quantity See applicable regulations.

ADR/RID

: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Tunnel code (E)

Section 14. Transport information

IMDG

The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Emergency schedules F-A, S-B

Remarks Limited quantity

IATA : The environmentally hazardous substance mark may appear if required by other

transportation regulations.

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.

Transport in bulk according

to Annex II of MARPOL and the IBC Code

: Not available.

Section 15. Regulatory information

U.S. Federal regulations

: Clean Water Act (CWA) 307: phenol

Clean Air Act Section 602

: Not listed

Class I Substances

Clean Air Act Section 602 **Class II Substances**

: Not listed

DEA List I Chemicals

(Precursor Chemicals)

: Not listed

DEA List II Chemicals

: Not listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

			SARA 302 TPQ		SARA 304 RQ	
Name	%	EHS	(lbs)	(gallons)	(lbs)	(gallons)
phenol	<1	Yes.	500 / 10000	-	1000	-

SARA 304 RQ : 203847.3 lbs / 92546.7 kg [25466.9 gal / 96402.8 L]

SARA 311/312

: Immediate (acute) health hazard Classification Delayed (chronic) health hazard

Composition/information on ingredients

Name	%		Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
4-nonylphenol, branched Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	≥50 - ≤75	No.	No.	No.	Yes.	No.
	≥10 - ≤25	No.	No.	No.	Yes.	No.
2-piperazin-1-ylethylamine	≤10	No.	No.	No.	Yes.	No.
2-(2-aminoethylamino)ethanol	<1	No.	No.	No.	Yes.	Yes.

SARA 313

: 1.04 Page 24 95275 Heart Numbers: \$1783/1996; \$1798-1807; \$1783; 1009 : 4/11/2019 Version

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	4-nonylphenol, branched	84852-15-3	≥50 - ≤75
Supplier notification	4-nonylphenol, branched	84852-15-3	≥50 - ≤75

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

State regulations

Massachusetts : The following components are listed: 1-(2-AMINOETHYL)-PIPERAZINE

New York : None of the components are listed.

New Jersey : The following components are listed: N-AMINOETHYLPIPERAZINE; 1-

(2-AMINOETHYL)PIPERAZIN

Pennsylvania: The following components are listed: 1-PIPERAZINEETHANAMINE

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.

Europe : Not determined.

Japan : Japan inventory (ENCS): All components are listed or exempted.

Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand: All components are listed or exempted.Philippines: All components are listed or exempted.Republic of Korea: All components are listed or exempted.Taiwan: All components are listed or exempted.

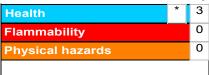
Thailand : Not determined.
Turkey : Not determined.

United States : All components are listed or exempted.

Viet Nam : Not determined.

Section 16. Other information

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



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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

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.

National Fire Protection Association (U.S.A.)



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION - Category 1C	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 1B	Calculation method
TOXIC TO REPRODUCTION (Fertility) - Category 2	Calculation method

History

Date of issue/Date of : 4/11/2019

revision Version

: 1.04

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)

UN = United Nations

References : Not available.

<u>ታል የመድመር ነው። የመድመር ነው። ተለተነ የመድመር ነው። የመድመር ነው። ተለተነ የመድመር ነው። የመድመር ነው። ተለተነ የመድመር ነው። ተለከ የመድመር ነው። ተለተነ የመድመር ነው። ተለከ የመደር ነው። ተለከ የመደ</u>

Section 16. Other information

Indicates information that has changed from previously issued version.

Votice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.