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SAFETY DATA SHEET

1. Identification

Material name: EUCEM AEM 2Z

Material: AEM 2Z

Recommended use and restriction on use

Recommended use: Additive Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY 19218 REDWOOD ROAD CLEVELAND OH 44110 US

Contact person: EH&S Department **Telephone:** 216-531-9222

Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Carcinogenicity Category 2

Unknown toxicity - Health

Acute toxicity, oral 12.35 %
Acute toxicity, dermal 27.45 %
Acute toxicity, inhalation, vapor 35.16 %
Acute toxicity, inhalation, dust or mist

Label Elements

Hazard Symbol:



Signal Word: Warning



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Hazard Statement: Causes skin irritation.

> Causes serious eye irritation. Suspected of causing cancer.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety

> precautions have been read and understood. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment

as required.

Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs:

> Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get

medical advice/attention. IF exposed or concerned: Get medical

advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/ container to an approved facility in accordance with

local, regional, national and international regulations.

Hazard(s) not otherwise

classified (HNOC):

None.

3. Composition/information on ingredients

Mixtures

| Chemical Identity | CAS number | Content in percent (%)* |
|----------------------------------|------------|-------------------------|
| Coconut diethanolamide | 68603-42-9 | 10 - <20% |
| Oleic acid | 112-80-1 | 5 - <10% |
| Sodium (C14-16) Olefin Sulfonate | 68439-57-6 | 1 - <3% |
| Glycerine | 56-81-5 | 1 - <5% |
| Diethanolamine | 111-42-2 | 0.1 - <1% |
| Sodium hydroxide | 1310-73-2 | 0.1 - <1% |
| Ethanolamine | 141-43-5 | 0.1 - <1% |

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Move to fresh air.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while

removing contaminated clothing and shoes. Wash contaminated

clothing before reuse. Get medical attention.



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Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy

to do, remove contact lenses. Get medical attention.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-

aid Responders:

Self-contained breathing apparatus and full protective clothing must

be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching,

irritation and eczema/chapping.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing

media:

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing

media:

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from

the chemical:

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting

procedures:

No data available.

Special protective equipment

for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be

worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate

protective clothing. Keep unauthorized personnel away.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in

accordance with all applicable regulations.



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Methods and material for containment and cleaning up:

Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for

disposal according to local regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or

spillage if safe to do so.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical

ventilation or local exhaust ventilation may be required.

Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective

equipment. Observe good industrial hygiene practices.Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Avoid

contact with skin.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and

immediately after handling the product. Avoid contact with eyes. Wash

contaminated clothing before reuse. Avoid contact with skin.

Storage

Safe storage conditions: Store locked up.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Туре | Exposure Limit Values | Source | |
|-----------------------------------|------|---|---|--|
| Glycerine - Total dust. | PEL | 15 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006) | |
| Glycerine - Respirable fraction. | PEL | 5 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006) | |
| Glycerine - Respirable particles. | TWA | 3 mg/m3 | US. ACGIH Threshold Limit Values, as amended (01 2021) | |
| Glycerine - Total dust. | TWA | 50 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016) | |
| | TWA | 15 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016) | |
| Glycerine - Respirable fraction. | TWA | 15 millions of particles per cubic foot of air | US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016) | |
| Glycerine - Inhalable | TWA | 10 mg/m3 | US. ACGIH Threshold Limit Values, as | |



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| particles. | | | | amended (01 2021) |
|--|---------|-------|---------|---|
| Glycerine - Respirable fraction. | TWA | | 5 mg/m3 | US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016) |
| Diethanolamine - Inhalable fraction and vapor. | TWA | | 1 mg/m3 | US. ACGIH Threshold Limit Values, as amended (2011) |
| Sodium hydroxide | PEL | | 2 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006) |
| | Ceiling | | 2 mg/m3 | US. ACGIH Threshold Limit Values, as amended (2008) |
| Ethanolamine | TWA | 3 ppm | | US. ACGIH Threshold Limit Values, as amended (2011) |
| | STEL | 6 ppm | | US. ACGIH Threshold Limit Values, as amended (2011) |
| | PEL | 3 ppm | 6 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006) |





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| Chemical name | Туре | Exposure Limit Values | Source |
|--|---------|------------------------------|--|
| Glycerine - Respirable mist. | TWA | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Glycerine - Mist. | TWA | 10 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017) |
| Glycerine - Inhalable particles. | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020) |
| Glycerine - Respirable particles. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020) |
| Glycerine - Respirable fraction. | TWA | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020) |
| Glycerine - Inhalable fraction. | TWA | 10 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020) |
| Glycerine - Total mist | TWA | 10 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2021) |
| Diethanolamine | TWA | 2 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011) |
| Diethanolamine - Inhalable fraction and vapor. | TWA | 1 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| Diethanolamine - Inhalable fraction and vapor. | TWA | 1 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020) |
| Sodium hydroxide | CEV | 2 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007) |
| Sodium hydroxide | CEILING | 2 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Sodium hydroxide | CEILING | 2 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017) |
| Ethanolamine | TWA | 3 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | 6 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Ethanolamine | STEL | 6 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| | TWA | 3 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| Ethanolamine | STEL | 6 ppm 15 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017) |
| | TWA | 3 ppm 7.5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017) |



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Appropriate Engineering

Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical

ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection: Wear chemical-resistant gloves, footwear, and protective clothing

appropriate for the risk of exposure. Contact health and safety professional

or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from

local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and

immediately after handling the product. Avoid contact with eyes. Wash

contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Brown

Odor: Characteristic
Odor threshold: No data available.

pH: 9.0 - 10.0 Melting point/freezing point: 0 °C 32 °F

Initial boiling point and boiling range:

Flash Point:

Evaporation rate:

No data available.

No data available.

Slower than Ether

Flammability (solid, gas): No Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper:

Explosive limit - lower:

Vapor pressure:

Vapor density:

Relative density:

No data available.

1.010 - 1.030

Solubility(ies)

Solubility in water: Soluble

Solubility (other):No data available.



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Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature:No data available.Decomposition temperature:No data available.Viscosity:No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous

reactions:

No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: Strong acids. Strong bases.

Hazardous Decomposition

Products:

Thermal decomposition or combustion may liberate carbon oxides and

other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and

mucus membranes.

Skin Contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:



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Specified substance(s):

Coconut diethanolamide LD 50 (Rat): 12,200 mg/kg

Oleic acid LD 50 (Rat): 74 g/kg

Glycerine LD 50 (Rat): 27,200 mg/kg

Diethanolamine LD 50 (Rat): 1,100 mg/kg

Sodium hydroxide LD 50 (Rabbit): 325 mg/kg

Ethanolamine LD 50 (Rat): 1,089 mg/kg

Dermal

Product: ATEmix: 29,128.39 mg/kg

Inhalation Product:

Specified substance(s):

Glycerine LC 50: > 570 mg/m3

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Sodium hydroxide in vivo (Rabbit): Irritating, 24 h

Ethanolamine in vivo (Rabbit): Corrosive, 24 - 72 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Sodium hydroxide Rabbit, 1 d: Mild irritant

Rabbit, 24 - 72 hrs: Irritating

Respiratory or Skin Sensitization

Product: No data available.



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Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Coconut Overall evaluation: Possibly carcinogenic to humans.

diethanolamide

Diethanolamine Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product:

No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:



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Fish

Product: No data available.

Specified substance(s):

Oleic acid LC 50 (Fathead minnow (Pimephales promelas), 24 h): 285 mg/l Mortality

Glycerine LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 96 h): 51,000

- 57,000 mg/l Mortality

LC 50 (Carassius auratus, 24 h): > 5,000 mg/l Experimental result,

Supporting study

LC 50 (Pimephales promelas, 96 h): 885 mg/l Experimental result,

Supporting study

LC 50 (Cyprinodon variegatus, 96 h): > 11,000 µg/l Experimental result,

Supporting study

LC 50 (Oncorhynchus mykiss, 96 h): 54,000 mg/l Experimental result, Key

study

Diethanolamine LC 50 (Pimephales promelas, 96 h): 1,370 mg/l Experimental result, Key

study

Sodium hydroxide LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 125 mg/l Mortality

Ethanolamine LC 50 (Cyprinus carpio, 96 h): 349 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Glycerine LC 50 (Daphnia magna, 48 h): 1,955 mg/l experimental result Experimental

result, Supporting study

Diethanolamine EC 50 (Ceriodaphnia dubia, 48 h): 30.1 mg/l experimental result

Experimental result, Key study

Sodium hydroxide EC 50 (Ceriodaphnia sp., 48 h): 40.4 mg/l experimental result Experimental

result, Key study

Ethanolamine EC 50 (Daphnia magna, 48 h): 65 mg/l experimental result Experimental

result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Diethanolamine NOAEL (Daphnia magna): 0.78 mg/l experimental result Experimental result,

Key study

Ethanolamine NOAEL (Daphnia magna): 0.85 mg/l experimental result Experimental result,

Key study



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Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Glycerine 94 % Detected in water. Experimental result, Key study

Diethanolamine 93 % (28 d) Detected in water. Experimental result, Key study

Ethanolamine > 90 % (21 d) Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Ethanolamine Bioconcentration Factor (BCF): 9.2 Aquatic sediment QSAR, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Oleic acid Log Kow: 7.64

Glycerine Log Kow: -1.76

Diethanolamine Log Kow: -1.43

Log Kow: 1.43

Ethanolamine Log Kow: -1.31

Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in

accordance with applicable laws and regulations, and product

characteristics at time of disposal.

Contaminated Packaging: No data available.



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14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical IdentityReportable quantityDiethanolamine100 lbs.Sodium hydroxide1000 lbs.

Methanol 5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards Delayed (Chronic) Health Hazard Skin Corrosion or Irritation Serious eye damage or eye irritation Carcinogenicity

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not regulated.



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US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC:

Regulatory VOC (less water and

: 2 g/l

exempt solvent)

VOC Method 310 : 0.07 %



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Inventory Status:

Australia Industrial Chem. Act (AIIC): One or more components in this

product are not listed on or exempt

from the Inventory.

Canada DSL Inventory List:

One or more components in this

product are not listed on or exempt

from the Inventory.

Canada NDSL Inventory: One or more components in this

product are not listed on or exempt

from the Inventory.

Ontario Inventory: One or more components in this

product are not listed on or exempt

from the Inventory.

China Inv. Existing Chemical

Substances:

One or more components in this product are not listed on or exempt

from the Inventory.

Japan (ENCS) List: One or more components in this

product are not listed on or exempt

from the Inventory.

Japan ISHL Listing:

One or more components in this

product are not listed on or exempt

from the Inventory.

Japan Pharmacopoeia Listing: One or more components in this

product are not listed on or exempt

from the Inventory.

Korea Existing Chemicals Inv. (KECI): One or more components in this

product are not listed on or exempt

from the Inventory.

Mexico INSQ: One or more components in this

product are not listed on or exempt

from the Inventory.

New Zealand Inventory of Chemicals: One or more components in this

product are not listed on or exempt

from the Inventory.

Philippines PICCS: One or more components in this

product are not listed on or exempt

from the Inventory.

Taiwan Chemical Substance Inventory: One or more components in this



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product are not listed on or exempt

from the Inventory.

US TSCA Inventory: All components in this product are

listed on or exempt from the

Inventory.

Switzerland New Subs Notified/Registered:

One or more components in this product are not listed on or exempt

from the Inventory.

Thailand DIW Existing Chemical Inv.

List:

One or more components in this product are not listed on or exempt

from the Inventory.

Vietnam National Chemical Inventory: One or more components in this

product are not listed on or exempt

from the Inventory.

EINECS, ELINCS or NLP: One or more components in this

product are not listed on or exempt

from the Inventory.

16.Other information, including date of preparation or last revision

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Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard

information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including

the safe use of the product under every foreseeable condition.