

SAFETY DATA SHEET



TERMUL® 1284

Version 1.0 Revision Date: 12/08/2019 SDS Number: 400041002934 Date of last issue: -
Date of first issue: 12/08/2019

Print Date 03/21/2020

SECTION 1. IDENTIFICATION

Product name : TERMUL® 1284

Manufacturer or supplier's details

Company name of supplier : Indorama Ventures Oxides LLC
Address : 24 Waterway Ave., Suite 1100
The Woodlands,
Texas 77380
United States of America (USA)
Telephone : (256) 3405200

Manufacturer or supplier's details

E-mail address of person responsible for the SDS : SDSHUN@indorama.net
Emergency telephone number : CHEMTREC - USA (English)
Local Number (National): +1 703-741-5970
Toll-Free Number: 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Surfactant

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

| Chemical name | CAS-No. | Concentration (% w/w) |
|--|------------|-----------------------|
| Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-Ethane-1,2-diol, ethoxylated | 25322-68-3 | 10 - 20 |

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

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SECTION 4. FIRST AID MEASURES

- General advice : Treat symptomatically.
Get medical attention if symptoms occur.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : Get medical attention if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : No information available.
- Hazardous combustion products : Carbon oxides
- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

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- Environmental precautions : No special environmental precautions required.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
- Conditions for safe storage : No special storage conditions required.
Keep in properly labelled containers.
- Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.
- Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters****Personal protective equipment**

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Tightly fitting safety goggles
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : paste
- Colour : yellow

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Odour : characteristic

Odour Threshold : No data is available on the product itself.

pH : 7 - 9
Concentration: 10 g/l

Melting point : 37 - 39 °F / 3 - 4 °C

Boiling point : 219 °F / 104 °C

Flash point : > 302 °F / > 150 °C
Method: closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

Upper explosion limit / Upper flammability limit : No data is available on the product itself.

Lower explosion limit / Lower flammability limit : No data is available on the product itself.

Vapour pressure : 0.011997 Pa

Relative vapour density : No data is available on the product itself.

Relative density : 1.05

Density : No data is available on the product itself.

Solubility(ies)
Water solubility : No data is available on the product itself.

Solubility in other solvents : Solvent: Methanol
Description: soluble

Partition coefficient: n-octanol/water : No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

Thermal decomposition : No data is available on the product itself.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity
Viscosity, kinematic : 413 mm²/s (104 °F / 40 °C)

Explosive properties : No data is available on the product itself.

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Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.

Conditions to avoid : None known.

Incompatible materials : None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Components:**

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-Ethane-1,2-diol, ethoxylated:

Species: Rabbit

Assessment: No skin irritation

Method: No information available.

Result: No skin irritation

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Assessment: No data available

Germ cell mutagenicity

Genotoxicity in vitro : No data available

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Genotoxicity in vivo : No data available

Germ cell mutagenicity-
Assessment : No data available**Carcinogenicity**

No data available

Carcinogenicity -
Assessment : No data available**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Effects on foetal
development : No data availableReproductive toxicity -
Assessment : No data available**STOT - single exposure**

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity

No data available

Repeated dose toxicity -
Assessment : No data available**Aspiration toxicity**

No data available

Experience with human exposure

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General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:**

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-Ethane-1,2-diol, ethoxylated:

Toxicity to fish : LC50: > 5,000 mg/l
Exposure time: 96 hToxicity to daphnia and other : No data available
aquatic invertebratesToxicity to algae/aquatic : No data available
plantsM-Factor (Acute aquatic : No data available
toxicity)Toxicity to fish (Chronic : No data available
toxicity)Toxicity to daphnia and other : No data available
aquatic invertebrates
(Chronic toxicity)M-Factor (Chronic aquatic : No data available
toxicity)

Toxicity to microorganisms : No data available

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| | |
|---|---------------------|
| Toxicity to soil dwelling organisms | : No data available |
| Plant toxicity | : No data available |
| Sediment toxicity | : No data available |
| Toxicity to terrestrial organisms | : No data available |
| Ecotoxicology Assessment | |
| Acute aquatic toxicity | : No data available |
| Chronic aquatic toxicity | : No data available |
| Toxicity Data on Soil | : No data available |
| Other organisms relevant to the environment | : No data available |

Persistence and degradability

| | |
|----------------------------|--|
| Biodegradability - Product | : Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 72.5 % Exposure time: 28 d Method: ISO Method, other |
|----------------------------|--|

Components:

| | |
|---|---|
| Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-Ethane-1,2-diol, ethoxylated: | |
| Biochemical Oxygen Demand (BOD) | : 1325 mgO ₂ /g Incubation time: 30 d |

Components:

| | |
|---|----------------------------|
| Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-Ethane-1,2-diol, ethoxylated: | |
| Chemical Oxygen Demand (COD) | : 1630 mgO ₂ /g |
| BOD/COD | : No data available |
| ThOD | : No data available |
| BOD/ThOD | : No data available |
| Dissolved organic carbon (DOC) | : No data available |
| Physico-chemical removability | : No data available |
| Stability in water | : No data available |
| Photodegradation | : No data available |
| Impact on Sewage Treatment | : No data available |

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Bioaccumulative potential

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.

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SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA**

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**DOT Classification**

Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 311/312 Hazards : No SARA Hazards**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

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- PICCS : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory
- TCSI : On the inventory, or in compliance with the inventory
- TSCA : All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

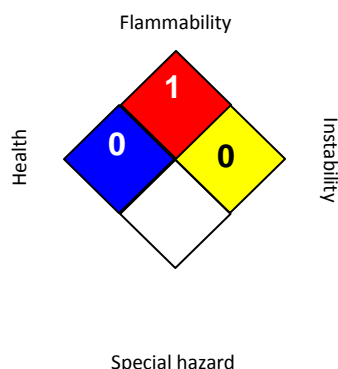
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

| | | |
|------------------------|--|----------|
| HEALTH | | 0 |
| FLAMMABILITY | | 1 |
| PHYSICAL HAZARD | | 0 |

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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