



SAFETY DATA SHEET

TRIPROPYLENE GLYCOL DIACRYLATE

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	TRIPROPYLENE GLYCOL DIACRYLATE
Product number	47730
Synonyms; trade names	ETERMER 223, ETERMER 223-TF
CAS number	42978-66-5
EU index number	607-249-00-X
EC number	256-032-2

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

Identified uses	inks Chemical Intermediate
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	47330

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335
Environmental hazards	Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC) Xi;R36/37/38. N;R51/53. R43.

2.2. Label elements

EC number	256-032-2
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TRIPROPYLENE GLYCOL DIACRYLATE

Pictogram



Signal word

Warning

Hazard statements

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing vapour/ spray.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	TRIPROPYLENE GLYCOL DIACRYLATE
EU index number	607-249-00-X
CAS number	42978-66-5
EC number	256-032-2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	May cause respiratory irritation.
Skin contact	Irritating to skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!
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TRIPROPYLENE GLYCOL DIACRYLATE

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is non-combustible. Toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Take precautionary measures against static discharges. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Static electricity and formation of sparks must be prevented. Keep away from heat, sparks and open flame. Provide adequate ventilation. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight. Store at temperatures between 10°C and 32°C.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments WEL = Workplace Exposure Limits

TRIPROPYLENE GLYCOL DIACRYLATE

DNEL

Workers - Inhalation; Long term systemic effects: 24.48 mg/m³
 Workers - Dermal; Long term systemic effects: 2.77 mg/kg
 Consumer - Inhalation; Long term systemic effects: 7.24 mg/m³
 Consumer - Oral; Long term systemic effects: 2.08 mg/kg
 Consumer - Dermal; Long term systemic effects: 1.66 mg/kg

PNEC

- Fresh water; 0.0073 mg/l
 - STP; 100 mg/l
 - Intermittent release; 0.73 mg/l
 - Marine water; 0.0007 mg/l
 - Sediment (Freshwater); 0.19 mg/kg
 - Soil; 0.00243 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield. EN 166

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. EN 374

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin.

Respiratory protection

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs. EN 136/140/145/143/149

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Characteristic.
Odour threshold	No information available.
pH	pH (concentrated solution): 6.8 - 7.2
Initial boiling point and range	> 120°C
Flash point	> 93°C CC (Closed cup).
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable.

TRIPROPYLENE GLYCOL DIACRYLATE

Upper/lower flammability or explosive limits	No information available.
Vapour pressure	0.0044 Pa @ °C
Vapour density	No information available.
Relative density	1.03 @ 25°C
Bulk density	1.04
Solubility(ies)	Insoluble in water. Soluble in the following materials: Esters. Ketones.
Partition coefficient	: 2
Auto-ignition temperature	214°C
Decomposition Temperature	No information available.
Viscosity	15.1 mPa s @ °C
Explosive properties	No information available.
Oxidising properties	No information available.

9.2. Other information

Other information	Not determined.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Does not decompose when used and stored as recommended.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	May polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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10.5. Incompatible materials

Materials to avoid	Strong alkalis. Strong reducing agents. Strong oxidising agents. Strong acids.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Fire creates: Carbon monoxide (CO). Carbon dioxide (CO ₂).
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Skin corrosion/irritation

Skin corrosion/irritation	Not irritating.
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Serious eye damage/irritation

Serious eye damage/irritation	Irritating to eyes.
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Respiratory sensitisation

Respiratory sensitisation	No information available.
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TRIPROPYLENE GLYCOL DIACRYLATE

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure Irritating to respiratory system.

Target organs Respiratory tract

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation Irritating to respiratory system. Vapours irritate the respiratory system. May cause coughing and difficulties in breathing.

Ingestion May cause discomfort if swallowed.

Skin contact Irritating to skin. May cause sensitisation by skin contact.

Eye contact Irritating to eyes.

SECTION 12: Ecological Information

Ecotoxicity The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Acute toxicity - fish LC₅₀, 96 hours: 4.6 - 10 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 89 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 65.9 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient : 2

12.4. Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

TRIPROPYLENE GLYCOL DIACRYLATE

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPROPYLENE GLYCOL DIACRYLATE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPROPYLENE GLYCOL DIACRYLATE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPROPYLENE GLYCOL DIACRYLATE)

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPROPYLENE GLYCOL DIACRYLATE)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M6

ADR/RID label 9

IMDG class 9

ICAO class/division 9

ADN class 9

Transport labels



14.4. Packing group

TRIPROPYLENE GLYCOL DIACRYLATE

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015. This product may impact SEVESO storage regulations.
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15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Other information

TRIPROPYLENE GLYCOL DIACRYLATE

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

05/02/2016

Revision

04

Supersedes date

17/08/2016

SDS number

47730

Version number

1.000

SDS status

Approved.

Signature

Jitendra Panchal

Risk phrases in full

R36/37/38 Irritating to eyes, respiratory system and skin.
 R43 May cause sensitisation by skin contact.
 R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

TRIPROPYLENE GLYCOL DIACRYLATE

Hazard statements in full

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.