Safety Data Sheet

According to Regulation (EC) No 1907/2006, Annex II,

Amended by COMMISSION REGULATION (EU) 2015/830,

According to REGULATION (EC) No 1272/2008

1,1,1-trimethylopropane

Version 1.0

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Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name:	1,1,1-trimethylolpropane
Additional identification:	2-Ethyl-2-hydroxymethyl-1,3-propanediol Trimethylolpropane TMP
Identification of the product:	CAS#77-99-6 EC#201-074-9
Index Number:	Not available
REACH registration No.:	01-2119486799-10-0016

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

1.2.1 Identified uses:

1.Used as the raw material of synthetic resin, and also used for synthetic aviation lubricating oil, plasticizer, etc.

2.Used as the glycerine substitute, and also used for synthesis of drying oil.

3.Widely used in the production of polyester and polyurethane foam, also used in the manufacture of alkyd coatings, synthetic lubricants, plasticizer, surfactant, rosin ester and explosives. Also used directly as textile auxiliary agent and PVC resin thermal stabilizer. And used in alkyd resin application, it can improve the resin's firmness, color, weather resistance, chemical resistance, and sealing properties.

4.Have the advantages of improving the firmness, corrosion resistance and sealing performance of resin, and have good stability to hydrolysis, pyrolysis and oxidation

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative):	Chemical Inspection & Regulation Service Limited
Supplier(Manufacturer):	Nantong Baichuan New Material Co., Ltd.

1.4 Emergency telephone Number:

+353 (1) 477 3710 (Only available during office hours (9:00a.m.-17:30p.m.)

Available outside office hours?	YES		NO	X

Section 2 Hazards Identification

2.1 Classification of the substance or mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement

Repr. 2	H361fd

For full text of H- phrases: see section 2.2.

2.2 Label elements:

Hazard Pictograms:

Signal Word(S): Warning

Hazard Statement: H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statement: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P308 + P313: If exposed or concerned: Get medical advice/attention.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations.

2.3 Other hazards:

The substance is not PBT / vPvB.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Propylidynetrimethanol	01-2119486799-10-0016	77-99-6	201-074-9	99.28%
Water	N/A	7732-18-5	231-791-2	0.4%

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

4.1.2 In case of skin contact:

Wash off with plenty of water. Get medical attention if symptoms occur.

4.1.3 In case of eyes contact:

Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.

4.1.4 In case of ingestion:

Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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

Suspected of damaging fertility. Suspected of damaging the unborn child.

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

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or car-bon dioxide.

Unsuitable extinguishing media: High volume water jet.

5.2 Special hazards arising from the substance or mixture In case of fire, the following can be released: Carbon dioxide (CO2) Carbon monoxide.

5.3 Advice for firefighters: Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Use personal protective equipment.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.

6.2 Environmental Precautions: If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for Containment and Cleaning up: Allow to solidify, use mechanical handling equipment.
Keep in suitable, closed containers for disposal.
Dispose of wastes in an approved waste disposal facility.

6.4 Reference to other sections: See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures: Avoid formation of respirable particles. Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the ap-plication area.
Dispose of rinse water in accordance with local and national regulations.
Hygiene measures: General industrial hygiene practice.
Dust explosion class: St1

7.1.2 Advice on general occupational hygiene: Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities: Protect from moisture. Electrical installations / working materi-als must comply with the technological safety standards.
Advice on common storage: No materials to be especially mentioned.
Storage class (TRGS 510):11, Combustible Solids
Further information on stor-age stability:No decomposition if stored and applied as directed.

7.3 Specific end use(s): Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

				Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
Country	Substance	EINECS No.	CAS No.	ppm	mg/ m3	ppm	mg/ m3	Note
Sweden	1,1,1-Trimetylolpropan	201-074-9	77-99-6	-	5	-	-	-

8.1.2 Additional exposure limits under the conditions of use: Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=3.3 mg/m³
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.94 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.58 mg/m³
General Population - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.34 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=0.34 mg/kg bw/day

8.2 Exposure controls:

8.2.1Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Tightly fitting safety goggles.

Hand protection: Material:Polyvinyl chloride - PVC Wearing time:< 60 min
Material:Nitrile rubber - NBR Wearing time:< 60 min
Material:Natural rubber - NR Wearing time:< 60 min
Remarks:The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamina-tion with product change the gloves immediately and dispose of them according to relevant national and local regulations

Body protection: Impervious clothing.

Respiratory protection: When high levels of vapors or aerosols are not controlled by local ventilation, respiratory protection is recommended.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance: Solid

Colour: White

Odour: Not available

Odour threshold: Not available

pH: Not available

Melting point/range (°C): 58 °C

Boiling point/range (°C): 304.2 °C

Flash point (°C): 149 °C

Evaporation rate: Not available

Flammability limit - lower (%): Not available

Flammability (solid, gas): Not applicable

Ignition temperature (°C): Not available

Upper/lower explosive limits: Not available

Vapour pressure (25°C): 0 mm Hg

Vapour density: Not available

Relative Density: 1.08 g/cm³ (20 °C)

Bulk density (kg/m³): Not available

Water solubility (g/l): 100 g/L (25 °C)

n-Octanol/Water (log Po/w): -0.47 (26 °C)

Auto-ignition temperature: Not available

Decomposition temperature: Not available

Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Non-explosive
Oxidising properties:	Not available
Molecular Formula:	C6H14O3
Molecular Weight:	134.174

9.2. Other information:

Fat solubility(solvent-oil to be specified) etc:	Not available
Surface tension:	Not available
Dissociation constant in water(pKa):	15 (20 °C)
Oxidation-reduction Potential:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials.
10.5 Incompatible materials:	Strong oxidizing agents.
10.6 Hazardous decomposition products:	Carbon oxides.

Section 11 Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:	
LD50(Oral, Rat):	14700 mg/kg bw
LD50(Dermal, Rabbit):	> 10000 mg/kg bw
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Suspected of damaging fertility or the unborn child.
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:	
LC50(96h, Fish):	> 1000 mg/L
EC50(48h, Crustacea):	13000 mg/L
EC50(72h, Algae/aquatic plants):	> 1000 mg/L
Chronic (long-term) toxicity:	
NOEC(Fish):	Not available
NOEC(Crustacea):	> 1000 mg/L

EC50(Algae/aquatic plants):	Not available
12.2 Persistence and degradability:	Inherently biodegradable
12.3 Bioaccumulative potential:	log BCF:-1
12.4 Mobility in soil:	log Koc:0.176
12.5 Results of PBT and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Other adverse effects:	Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

Section 14 Transport information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	Not regulated	Not regulated	Not regulated	Not regulated
UN Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated
Transport hazard Class(es)	Not regulated	Not regulated	Not regulated	Not regulated
Packing group	Not regulated	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	Not regulated	Not regulated	Not regulated	Not regulated

Section 15 Regulatory information

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

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical safety assessment YES [X] NO [ ]

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Repr. 2	H361	Calculation method

16.5 Relevant H-statements (number and full text):

H361: Suspected of damaging fertility or the unborn child.

16.6 Training instructions:

Not applicable.

16.7 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.8 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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