



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 17.04.2017

Revision: 17.04.2017

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

- **Product identifier**
- **Trade name: Trimethylolpropane (TMP)**
- **Synonyms:**
TMP; 2-Ethyl-2-(hydroxymethyl)-1.3-propanediol; 1,1,1-Tris(hydroxymethyl)propane; 1.3-Propanediol, 2-ethyl-2-(hydroxymethyl)-; propylidynetrimethanol
- **CAS Number:**
77-99-6
- **Relevant identified uses of the substance or mixture and uses advised against :**
- **Identified/Recommended uses:**
Industrial use as intermediate
Intermediate for organic synthesis
Raw Material for:
Alkyd resins
Coating
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Chang Chun Petrochemical Co. Ltd.
7th Fl., No. 301, SongJiang Rd.
Taipei City, 10483, TAIWAN
Tel: +886-2-2500-1800 Fax:+886-2-2501-8018
WWW.CCP.COM.TW
- **Further information obtainable from:** SDS-info@ccp.com.tw
- **Emergency telephone number:** During normal opening times: +886 2 2500 - 1800 (8:30-17:30; GMT+8)

2 Hazards identification

- **Classification of the substance or mixture:**
The substance is not classified as hazardous according to the Globally Harmonised System (GHS).
- **Label elements:**
- **Hazard pictograms:** None (Not Required) - Not Regulated/Not Hazardous
- **Signal word:** None (Not Required) - Not Regulated/Not Hazardous
- **Hazard statements:** None (Not Required) - Not Regulated/Not Hazardous

3 Composition/information on ingredients

- **Chemical characterisation: Substances**
- **CAS No. Description**
77-99-6 Trimethylolpropane 98.5%

4 First aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Generally the product does not irritate the skin.
Rinse cautiously with water for several minutes.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **Most important symptoms and effects, both acute and delayed:**
No known chronic or acute health risks.

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· **Indication of any immediate medical attention and special treatment needed**

Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire extinguishing methods suitable to surrounding conditions.

· **Special hazards arising from the substance or mixture**

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

· **Advice for firefighters**

· **Protective equipment:**

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

Do not breathe dust/fume/gas/mist/vapours/spray.

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:** Pick up mechanically.

· **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 disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Use personal protective equipment as required.

Do not get in eyes, on skin, or on clothing.

Ensure good ventilation/exhaustion at the workplace.

Provide suction extractors if dust is formed.

Thorough dedusting.

· **Information about fire - and explosion protection:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Protect against electrostatic charges.

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in cool, dry place in tightly closed receptacles.

· **Further information about storage conditions:** This product is hygroscopic.

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8 Exposure controls/personal protection

- **Additional information about design of technical facilities:**

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines.

If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Local exhaust ventilation may be necessary for some operations.

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:** Not required.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Avoid contact with the eyes and skin.

Wash hands before breaks and at the end of work.

- **Respiratory protection:**

Not necessary if room is well-ventilated.

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Short term filter device:

Fresh air mask

- **Protection of hands:**



Protective gloves

The selected protective gloves have to satisfy the specifications of standard EN 374 or its equivalent.

Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses with side shields conforming to EN166, ANSI 87.1-2010, or equivalent.

- **Body protection:**

Protective work clothing

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The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Solid material

- **Colour:** White

- **Odour:** Phenol-like

- **Odour threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

- **Melting point/freezing point:** 58 °C

- **Initial boiling point and boiling range:** 160 °C

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** Product is not flammable.

- **Ignition temperature:**

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Not determined.

- **Explosive properties:** Product does not present an explosion hazard.

- **Explosion limits:**

- **Lower:** Not determined.

- **Upper:** Not determined.

- **Vapour pressure:** Not applicable.

- **Density at 20 °C:** 1.0889 g/cm³

- **Relative density** Not determined.

- **Vapour density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with water:**

- Insoluble.

- **Partition coefficient: n-octanol/water:** Not determined.

- **Viscosity:**

- **Dynamic:** Not applicable.

- **Kinematic:** Not applicable.

- **Solvent content:**

- **VOC (EC)** 0,00 %

- **Solids content:** 100.0 %

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity:** When properly handled and stored, no dangerous reaction is known.

- **Chemical stability:** This product is stable under prescribed use and storage.

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- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
 - **Possibility of hazardous reactions:** No dangerous reactions known.
 - **Conditions to avoid:** Protect from heat. Keep ignition sources away.
 - **Incompatible materials:**
Strong oxidizing agents
Nitric acid
Hydrogen peroxide
 - **Hazardous decomposition products:**
Carbon monoxide (CO) and carbon dioxide (CO₂)
Decomposition products depend upon temperature, air supply and the presence of other materials.
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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity** Not classified based on available data.

- **LD/LC50 values relevant for classification:**

77-99-6 propylidynetrimehanol

Oral	LD50	14700 mg/kg (rat)
Dermal	LD50	>10000 mg/kg (rabbit)
Inhalative	LC50/8h	850 mg/m ³ (rat)

- **Skin corrosion/irritation:**
Not classified based on available data.
Rabbit: not irritating (OECD Test Guideline 404)
- **Serious eye damage/eye irritation:**
Not classified based on available data.
Rabbit: not irritating (OECD Test Guideline 405)
- **Respiratory or skin sensitization:**
Not classified based on available data.
Skin sensitisation:
Guinea Pigs - Not sensitizing to the skin (OECD Guideline 429)
- **Germ Cell Mutagenicity:**
Not classified based on available data.
In-vitro genotoxicity (non-mammalian cells): negative (OECD 471)
- **Carcinogenicity:** Not classified due to lack of data.
- **Reproductive Toxicity:** Not classified based on available data.
- **Specific Target Organ Toxicity - Single Exposure (STOT SE):** Not classified based on available data.
- **Specific Target Organ Toxicity - Repeated Exposure (STOT RE):**
Not classified based on available data.
- **Aspiration Hazard:** Not classified based on available data.
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritating effect.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

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12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Not classified based on available data.

77-99-6 propylidynetrimehanol	
EC50/48h	13000 mg/l (daphnia)
EC50/72h	>1000 mg/l (algae)

- **Persistence and degradability**

Easily biodegradable

Degradation : 100% (28d, OECD 302B)

- **Bioaccumulative potential**

Bioaccumulation is unlikely.

Bioconcentration Factor (BCF) : ~3.2 (calc. BCFWIN v.2.15)

Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

- **Mobility in soil**

Partition coefficient, soil organic carbon/water (Koc) : 1.5 (calc.)

Henry's Law Constant (H) : 1.48 E -08 atm m³/mol

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

After prior treatment product has to be landfilled or incinerated adhering to the regulations pertaining to the disposal of especially hazardous waste.

Any disposal method should also comply with national, regional, provincial, and local laws.

- **Uncleaned packaging:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- **ADR, ADN, IMDG, IATA** None (Not Regulated)

- **UN proper shipping name**

- **ADR, ADN, IMDG, IATA** None (Not Regulated)

- **Transport hazard class(es)**

- **ADR, ADN, IMDG, IATA**

- **Class** None (Not Regulated)

- **Packing group**

- **ADR, IMDG, IATA** None (Not Regulated)

- **Environmental hazards:**

- **Marine pollutant:** No

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- **Special precautions for user** Not applicable.
- **UN "Model Regulation":** None (Not Regulated)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Status of global inventories:**
All component(s) within this product is listed or exempted from the following country's chemical inventory:
USA – TSCA
Australia – AICS
Canada – DSL
China – IECSC
EU – EINECS/NLP
Japan – ENCS
Korea – KECI
New Zealand – NZIoC
Philippines – PICCS
Taiwan – TCSI
Mexico - INSQ
Thailand - TECI
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
- **Sources**
Most toxicological and eco-toxicological data are obtained from European Chemical Agency (ECHA)'s public dissemination website.
- **General Disclaimers:**
CCP Group recommends that all the users/customers/recipients to study this Safety Data Sheet (SDS) carefully and understand all the data or any potential hazards associated with this product. Please consult with appropriate expert if necessary. The information herein is provided in good faith and is believed to be accurate on the date of issue. No warranty, expressed or implied, is given. It is the customer's/user's responsibility to ensure that they are complying with local, regional, state, provincial, and/or national laws in using this product, as regulatory requirement may differ at each level. It is also the customer's/user's responsibility to determine the necessary condition required for using this product safely, as actual operating or usage conditions are beyond CCP Group's control. CCP Group will not be responsible for any SDS obtained from elsewhere other than from CCP Group. If you are unsure whether the SDS you have is current or have obtained the SDS from another source; please contact us to obtain the latest version.