

GPS Safety Summary

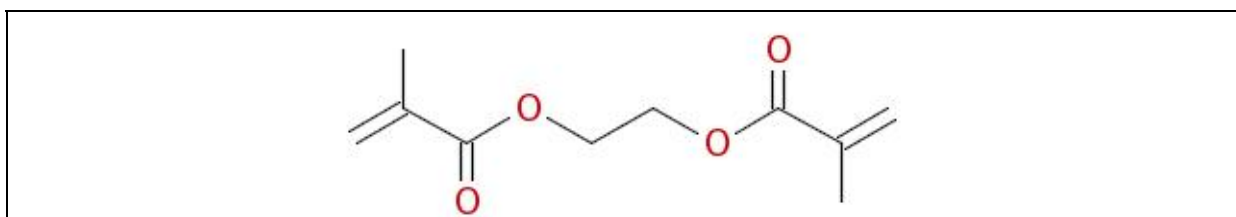
Substance Name:
ETHYLENE DIMETHACRYLATE

1. General Statement

Ethylene dimethacrylate is a difunctional methacrylic monomer which can be polymerised by free radicals. In particular, Ethylene dimethacrylate is designed for use as a co-monomer in free radical polymerization.

2. Chemical Identity

Name: ETHYLENE DIMETHACRYLATE
Brand names: SR206
Chemical name (IUPAC): ethane-1,2-diyl bis(2-methylacrylate)
CAS number(s): 97-90-5
EC number (optional): 202-617-2
Molecular formula (optional): C₁₀H₁₄O₄
Structure (optional):



3. Use and applications

Ethylene glycol dimethacrylate, is a colorless, high boiling difunctional monomer for use in free radical polymerization.

4. Physical / Chemical properties

Ethylene glycol dimethacrylate is a non flammable liquid with a low volatility and a moderate solubility in water.

Property	Value
Physical state	Liquid at 20°C and 1013.25 hPa
Form	
Particle size	Not applicable
Colour	Colorless to yellowish
Odour	Ester like
Molecular weight	198.22 g/mol
Relative density	1.055

Vapour pressure	0.01 hPa at 20°C
Freezing / boiling points	-40°C / 275°C at 965.8 hPa
Flammability (optional) H statement in case classified	Non flammable upon ignition.
Flash point	104°C at 1013 hPa
Self-ignition temperature	395°C at 1018 hPa
Explosive / oxidizing properties	Not expected based on structure
Water solubility	1086 mg/L at 20°C
Dissociation constant (pK _a)	Not applicable
Octanol-water partition coefficient (Log K _{ow})	2.4 at 20°C

5. Health Effects

Ethylene glycol dimethacrylate is to be considered as a moderate skin sensitizer and may cause irritation to respiratory tract.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Does not cause acute toxicity after oral and dermal exposure. No data is available by inhalation.
Irritation / corrosion Skin / eye/ respiratory tract	Skin contact does not cause skin irritation. Eye contact does not cause eye irritation. Causes irritation to Respiratory tract.
Sensitisation	Moderate skin sensitizer.
Toxicity after repeated exposure Oral / inhalation / dermal	Does not cause toxicity to internal organs after repeated exposure in animal studies by oral and dermal route. No data is available by inhalation.
Genotoxicity / Mutagenicity	Based on the available data, is not expected to cause genetic effects.
Carcinogenicity	No data is available.
Reproductive / Developmental Toxicology	Based on the available data, does not cause effects on the reproduction or on the foetal development in animal studies.

6. Environmental Effects

Ethylene glycol dimethacrylate is stable in water at pH 5-8. However Ethylene glycol dimethacrylate is to be considered as readily biodegradable in water and assumed to be also biodegradable in soil and sediments. Bioaccumulation in water, soil and sediment is not expected.

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic organisms.
Fate and behaviour	Result
Biodegradation	Readily biodegradable
Bioaccumulation potential	No bioaccumulation in aquatic organisms expected.

PBT / vPvB conclusion	This substance is not considered to be persistent, bioaccumulative nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulative (vPvB).
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7. Exposure

7.1 Human health

Workplace exposure:

Exposure can occur either in an Ethylene glycol dimethacrylate manufacturing facility or in the various industrial facilities that use Ethylene glycol dimethacrylate. Those working with Ethylene glycol dimethacrylate in industrial operations could be exposed during maintenance, sampling, testing, or other procedures. Each industrial facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit unnecessary exposure. Safety showers and eye-wash stations should be accessible nearby. Workers should follow the safety measures recommended in the Extended Safety Data Sheet (eSDS).

7.2 Environment

Environmental exposure:

Ethylene glycol dimethacrylate is readily biodegradable and will therefore be degraded rapidly within the waste water treatment process. Based on the results of risk assessment, all uses are adequately controlled with regard to the environment.

8. Risk Management recommendations

Human health measures	
Eye/Face protection	Safety glasses with side-shields
Skin protection	Long sleeved clothing
Hand protection	Gloves: nitrile rubber > 0,5 mm,(suitable gloves tested to EN374). Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility, etc) is noticed
Respiratory protection	When using concentrated chemicals always make sure that there is adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipments.
Organizational measures	Ensure workers are duly trained to minimize exposure
Engineering control	Apply technical measures to comply with the occupational exposure limits When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment
Environmental measures	
Do not allow material to contaminate ground water system. All effluent releases that may include the substance must be directed to a (municipal) waste water treatment plant that removes the substance from the final releases to the receiving water.	

9. Regulatory Information / Classification and Labelling


9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

9.2 Classification and labelling

Under GHS, substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
According to REGULATION (EC) no 1272/2008, the pure substance is classified: <ul style="list-style-type: none">– Skin Sens. 1B– STOT Single Exp. 3	
Signal word	
Warning	
Pictogram	
<ul style="list-style-type: none">– GHS07: Exclamation mark	
Hazard statement	
<ul style="list-style-type: none">– H317: May cause an allergic skin reaction.– H335: May cause respiratory irritation	
Alternative classification according to Globally Harmonized System (GHS)	
<ul style="list-style-type: none">– H317: May cause an allergic skin reaction.– H335: May cause respiratory irritation– H402: Harmful to aquatic life	

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

- **ICCA portal where the GPS Safety Summary is posted:**
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Date of Issues / Revision

- Date of issue: 2014/01/31
- Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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