GPS Safety Summary

Substance Name:

TRIMETHYLOLPROPANE TRIMETHACRYLATE

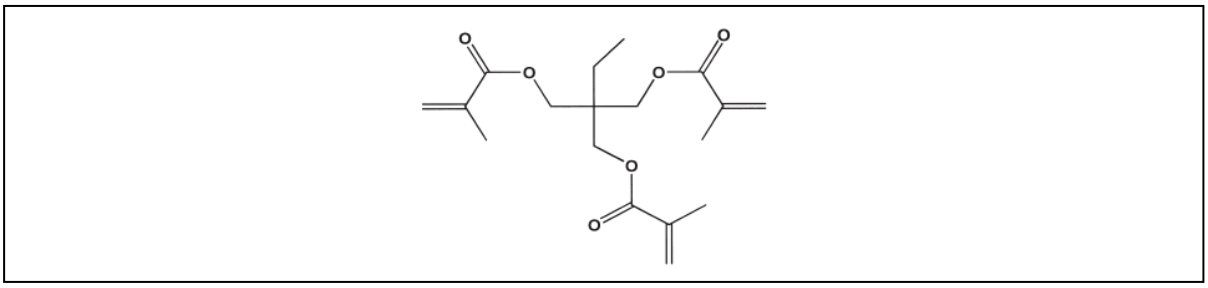
1. General Statement

SR 350 is a trifunctional methacrylate monomer designed for a wide variety of applications.

2. Chemical Identity

Name:	TRIMETHYLOLPROPANE TRIMETHACRYLATE
Brand names:	SR 350; SR 350 D
Chemical name (IUPAC):	Propylidynetrimethyl trimethacrylate
CAS number:	3290-92-4
ES number:	221-950-4
Molecular formula:	$C_{18}H_{26}O_6$

Structure (optional)**:**



3. Use and applications

SR 350 TMPTMA is a reactive trifunctional methacrylate suitable for use in a wide ranging number of polymer cross linking functions. TMPTMA is particularly useful as a co-agent in PVC plastisols, plasticizer systems and elastomers. Other applications include as an additive in water based emulsions, adhesives and UV/EB cured coatings.

4. Physical / Chemical properties

Property	Value
Physical state	Liquid at 20°C and 1013.25 hPa
Form	
Particle size	Not applicable
Colour	yellowish
Odour	Characteristic
Molecular weight	338 g/mol
Density	1.0659 g/cm3

Vapour pressure	0.00345 Pa at 20°C
Freezing / boiling points	-41.4 to -29.3°C / polymerization before boiling point
Flammability (optional) H statement in case classified	Non flammable
Flash point	> 130°C
Self-ignition temperature	360°C at 1013.25 hPa
Explosive / oxidizing properties	Non explosive
Water solubility	20.1 mg/L at 20°C
Dissociation constant (pK_a)	Not applicable
Octanol-water partition coefficient (Log K_{ow})	2.75 – 4.2 at 25°C

5. Health Effects

5.1 Consumer

Not applicable

5.2 Worker

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Does not cause acute toxicity.
Irritation / corrosion Skin / eye/ respiratory tract	Not irritating for skin Not irritating for the eyes
Sensitisation	Not sensitising
Toxicity after repeated exposure Oral / inhalation / dermal	Does not cause toxicity to internal organs after repeated exposure in animal studies by oral route.
Genotoxicity / Mutagenicity	Based on the available test data, not expected to cause genetic effects.
Carcinogenicity	No reliable data is available.
Toxicity for reproduction	Does not cause effects on the reproduction or on the foetal development in animal studies.

6. Environmental Effects

TMPTMA is quite stable in water as it hydrolyses very slowly. However, TMPTMA is inherently biodegradable. It can be assumed that TMPTMA is also biodegradable in soil and sediment and thus can be considered as non persisting in soil and sediment.

TMPTMA rapidly photodegradates in air.

Effect Assessment	Result
Aquatic Toxicity	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Fate and behaviour	Result
Biodegradation	Inherently biodegradable.
Bioaccumulation potential	Accumulation in organisms is not to be 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).

7. Exposure

7.1 Human health

Workplace exposure:

Exposure can occur either in an TMPTMA manufacturing facility or in the various industrial facilities that use TMPTMA. Those working with TMPTMA 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).

Consumer exposure:

Since the consumer is not exposed directly to the unreacted monomer of TMPTMA, an exposure to the consumer is negligible.

7.2 Environment

Environmental exposure:

As described earlier, TMPTMA is used in industrial settings and exposure of the environment is assessed for the manufacture, formulation and use. There are no direct customer uses for unreacted TMPTMA. 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.
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.
Environment protective 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: - Chronic Aquatic Toxicity; Category 2.	
Signal word	
Pictogram	
- GHS09: Environment	
Hazard statement	
- H411 - Toxic to aquatic life with long lasting effects	
Alternative classification according to Globally Harmonized System (GHS)	
- H411 - Toxic to aquatic life with long lasting effects - H401: Toxic 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: 2013/03/11
- 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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