GPS Safety Summary

Substance Name:

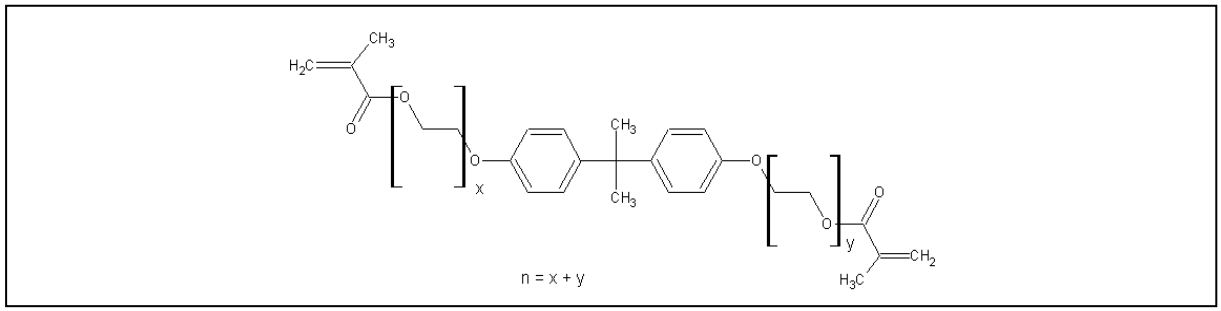
Ethoxylated (2 moles) bisphenol A dimethacrylate

1. General Statement

Ethoxylated (2 moles) bisphenol A dimethacrylate is a low volatility monomer used in free radical polymerization

2. Chemical Identity

Name:	**ETHOXYLATED (2 moles) BISPHENOL A DIMETHACRYLATE**
Brand names:	SR101K
Chemical name (IUPAC):	Reaction mass of ethoxylated (≥ 3 moles) bisphenol A dimethacrylate and propane-2,2-diylbis(4,1-phenyleneoxyethane-2,1-diyl) bis(2-methylacrylate)
CAS number:	**-**
ES number:	939-702-5
Molecular formula:	$C_{23}H_{24}O_4$ $(C_2H_4O)n$
Structure:	generic structure



3. Use and applications

Ethoxylated (2 moles) bisphenol A dimethacrylate is a difunctional methacrylic monomer which is a coagent used in peroxide or E.B vulcanization. It has a fast cure response, a very low volatility, and a high boiling point. Ethoxylated (2 moles) bisphenol A dimethacrylate is used in anaerobic adhesives and resin injection.

4. Physical / Chemical properties

Ethoxylated (2 moles) bisphenol A dimethacrylate has a very low volatility and is a non flammable product with very low solubility into water.

Property	Value
Physical state	Liquid at 20°C and 1013.25 hPa
Form	
Particle size	Not applicable
Colour	Colorless to yellowish
Odour	Characteristic
Molecular weight	452.0 — 540.0 g/mol
Relative density	1.1240
Vapour pressure	0.000000117 Pa at 20°C
Freezing / boiling points	< -30°C / > 250 °C (polymerization of the substance)
Flammability (optional)	Non flammable upon ignition
Flash point	143°C at 1013.25 hPa
Self-ignition temperature	471°C at 1013 hPa
Explosive / oxidizing properties	Not expected based on structure
Water solubility	0.0364 mg/L at 20°C
Dissociation constant (pK_a)	Not applicable
Octanol-water partition coefficient (Log K_{ow})	89.3% of the components of the reaction mass have Log Pow higher than 6 (6.36 - 6.63 calculated)

5. Health Effects

Based on available data, Ethoxylated (2 moles) bisphenol A dimethacrylate does not raise potential health effects.

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	Not irritating for skin. Not irritating for the eyes. No data is available for respiratory tract irritation.
Sensitisation	Not skin sensitising.
Toxicity after repeated exposure Oral / inhalation / dermal	Based on the available data, does not cause toxicity to internal organs after repeated exposure in animal studies by oral administration. No data is available by dermal route and inhalation.
Genotoxicity / Mutagenicity	Based on the available data, not expected to cause genetic effects.
Carcinogenicity	No data is available.
Toxicity for reproduction	Based on the available data, does not cause effects on the reproduction in animal study.

6. Environmental Effects

Ethoxylated (2 moles) bisphenol A dimethacrylate is readily biodegradable in water. It can be assumed that Ethoxylated (2 moles) bisphenol A dimethacrylate is also biodegradable in soil and sediment and thus can be considered as non persistent in this two compartments.

Effect Assessment	Result
Aquatic Toxicity	No toxicity to aquatic organisms at the water solubility limit.

Fate and behaviour	Result
Biodegradation	Readily biodegradable
Bioaccumulation potential	Not expected to bioaccumulate in aquatic organisms
PBT / vPvB conclusion	As this substance is not considered to be persistent, it is not classified PBT. This substance is considered to be neither very persistent nor very bioaccumulative (vPvB).

7. Exposure

7.1 Human health

Workplace exposure: Exposure can occur either in an Ethoxylated (2 moles) bisphenol A dimethacrylate manufacturing facility or in the various industrial facilities that use Ethoxylated (2 moles) bisphenol A dimethacrylate. Those working with Ethoxylated (2 moles) bisphenol A 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*:** Ethoxylated (2 moles) bisphenol A dimethacrylate is used in industrial settings and exposure of the environment is assessed for the manufacture, formulation and use. 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.
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 non classified:
Signal word
No signal word

Alternative classification according to Globally Harmonized System (GHS)
Not classified

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: 2014/09/30
- 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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