

## GPS Safety Summary

**Substance Name:**

### **2,2-Bis(methylthio)propane**

#### **1. General Statement**

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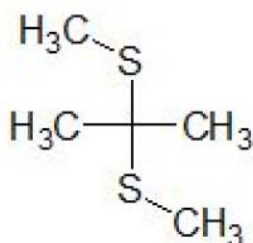
2,2-bis(methylthio)propane is a white liquid organic compound, with a stinging odour. It is used as a catalyst in chemical reaction. Products containing 2,2-bis(methylthio)propane are not sold to the general public.

Highly flammable liquid, irritant for eyes and toxic to aquatic life with long lasting effects, this substance must be carefully handled and stored to preserve human health and environment.

#### **2. Chemical Identity**

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<b>Name:</b>	2,2-Bis(methylthio)propane (BMTP)
<b>Brand name:</b>	2,2-Bis(methylthio)propane
<b>Chemical name (IUPAC):</b>	2,2-bis(methylthio)propane
<b>CAS number(s):</b>	6156-18-9
<b>EC number:</b>	478-900-1
<b>Molecular formula:</b>	C <sub>5</sub> H <sub>12</sub> S <sub>2</sub>
<b>Structure:</b>	



#### **3. Use and applications**

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BMTP can replace methyl mercaptan gas as co-catalyst in the production of Bis Phenol A. It has the advantage of being a liquid, much easier to handle and process than methylmercaptan gas, storable and transportable.

#### **4. Physical / Chemical properties**

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Property	Value
Physical state	Liquid at 20°C and 1013 hPa
Colour	White - yellow
Odour	Stinging
Density	0.987 at 20°C

Vapour pressure	4.43 hPa at 25°C 15.93 hPa at 50°C
Freezing / boiling points	-23.7°C / 164.4°C at 1013hPa
Flammability	Highly flammable liquid
Flash point	14°C (closed cup)
Self-ignition temperature	180°C at 1013 hPa
Explosive properties	Not explosive due to chemical structure
Oxidizing properties	Not oxidising due to chemical structure
Water solubility	0.323 g/L at 20°C
Octanol-water partition coefficient (Log K <sub>ow</sub> )	3.3 at 21°C

## 5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Not harmful by oral, dermal and inhalation exposures
Irritation / corrosion Skin / eye/ respiratory tract	Slightly irritating for the skin. Irritating for the eyes
Sensitisation	Not a skin sensitiser
Toxicity after repeated exposure Oral / inhalation / dermal	No significant adverse effect after repeated oral exposure
Genotoxicity / Mutagenicity	Not genotoxic
Carcinogenicity	This information is not available
Reproductive / Developmental Toxicology	No effect on the fertility

## 6. Environmental Effects

Effect Assessment	Result
Aquatic Toxicity	Toxic to aquatic organisms

Fate and behaviour	Result
Biodegradation	Not readily biodegradable
Bioaccumulation potential	No potential for bioaccumulation
PBT / vPvB conclusion	Not considered to be either PBT or vPvB

## 7. Exposure

### 7.1 Human health

The most likely route of human exposure (workers) to 2,2-bis(methylthio)propane is through inhalation and/or to a much lesser extent dermal contact. In industrial settings, ingestion is not an anticipated route of exposures.

The probability of exposure to workers is expected to be very low because on manufacturing and application site, enclosed controlled environment are used and the product is transported in well

sealed containers. They may be exposed during (un)loading, sampling, analysis and maintenance operations. The exposure must be kept as minimum as possible by the use of appropriate procedures and risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

## 7.2 Environment

Based on its physico-chemical properties, 2,2-bis(methylthio)propane is slightly soluble in water. The substance is not readily biodegradable and it is expected to have a low mobility in soil. Based on the available data, it can be considered as not bioaccumulable.

The probability of release to the environment is expected to be very low because on manufacturing and application site, enclosed controlled environment are used and the product is transported in well sealed containers. There are no emission in normal conditions of manufacturing and use. In an event of accidental release, spillage should be quickly collected. More information about accidental release measures are available in the extended safety data sheet.

## 8. Risk Management recommendations

Human health measures		
<b>Organizational</b>	Implement a good basic standard of occupational hygiene Ensure operatives are well informed of the hazards and trained to minimize exposures Hygiene measures must be respected and incompatible materials must be clearly identified	
<b>Protection</b>	<b>Eye/Face protection:</b>	Safety glasses
	<b>Skin protection:</b>	Protective suit
	<b>Hand protection:</b>	Natural rubber protective gloves (complying with EN 374)
	<b>Respiratory protection:</b>	Mask with specific cartridge (organic vapours) – recommended filter type : A2B2E2K2
<b>Engineering controls</b>	Ensure sufficient air exchange and/or exhaust in work area. Ensure that eyewash stations and safety showers are close to workstation locations.	
Environmental protective measures		
Do not release into the environment. Do not let product enter drains. For recovery, pump into a labelled inert emergency tank. Destroy by incineration in accordance with local and national regulations.		

## 9. Regulatory Information / Classification and Labelling

### 9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)
- Notified in China as a new chemical substance according to the *Measures for Environmental Management of New Chemical Substances (Order No 7 of Ministry of Environmental Protection)*.




The substance is listed on the Korean inventory.

### GPS Safety Summary

Arkema – Thiochemicals – BMTP – 2,2-Bis(methylthio)propane – GPS – 2014-11-30

## 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 safety data sheet. 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 to CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
According to REGULATION (EC) no 1272/2008: <ul style="list-style-type: none"><li>– Flammable liquid, cat. 2</li><li>– Eye irritation, cat. 2</li><li>– Chronic aquatic toxicity cat. 2</li></ul>	
Signal Word	
– Danger	
Pictogram	
– GHS02: Flame	
– GHS07: Exclamation mark	
– GHS09: Environment	
Hazard statement	
<ul style="list-style-type: none"><li>– H225: Highly flammable liquid and vapour</li><li>– H319: Causes serious eye irritation</li><li>– H411: Toxic to aquatic life with long lasting effects.</li></ul>	
Additional classification according to Globally Harmonized System (GHS)	
Chronic aquatic toxicity, cat.2 (H401 : Toxic to aquatic life)	

## 10. Contact Information within Company

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

- Arkema web site : on the product page, an actualised contact name is provided <http://www.arkema.com>
- **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

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- Date of issue: 2014/11/30
- Date of revision:

## 12. Disclaimer

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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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