



# RXSOL

VARANASI CHEMICAL | RX MARINE INTERNATIONAL

**RXSOL-28-7222-025**

Methane Sulfonic Acid

## Material Safety Data Sheet (MSDS)

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### 1. Product and Company Identification

|              |                       |
|--------------|-----------------------|
| Product Name | Methane Sulfonic Acid |
| Part Number  | RXSOL-28-7222-025     |

Company Details:

RX MARINE INTERNATIONAL  
105, A wing , BSEL , TECH PARK.  
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

|         |                                                          |
|---------|----------------------------------------------------------|
| Phone   | +91 22 20871200 - 1400                                   |
| Fax     | +91 22 27612100 ::::AOH :0091 9821214367                 |
| Email   | <a href="mailto:mail@rxmarine.com">mail@rxmarine.com</a> |
| Website | <a href="http://www.rxmarine.com">www.rxmarine.com</a>   |

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### 2. Composition / Information on ingredients

| Product name                       | Cas No  | EC No     | Weight      | Formula                          |
|------------------------------------|---------|-----------|-------------|----------------------------------|
| Methanesulfonic acid for synthesis | 75-75-2 | 200-898-6 | 96,11 g/mol | CH <sub>4</sub> O <sub>3</sub> S |

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### 3. Hazards Identification

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal Word                                | Danger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Hazard Statements                          | H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation.                                                                                                                                                                                                                                                                                                                                                             |
| Precautionary statements                   | P234 Keep only in original packaging. P261 Avoid breathing mist or vapors. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Classification of the substance or mixture | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                |                                                                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supplemental Hazard Statements | No data available                                                                                                                                                                                  |
| Other hazards                  | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |

#### 4. First Aid Measures

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|                                                                            |                                                                                                                                     |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| General advice                                                             | Show this material safety data sheet to the doctor in attendance                                                                    |
| If inhaled                                                                 | After inhalation fresh air.                                                                                                         |
| Eye Contact                                                                | After eye contact: rinse out with plenty of water. Remove contact lenses.                                                           |
| Swallowed                                                                  | After swallowing immediately make victim drink water (two glasses at most). Consult a physician. 4.2 Most import                    |
| Skin Contact                                                               | In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately |
| Inhalation                                                                 | No data available                                                                                                                   |
| Ingestion                                                                  | No data available                                                                                                                   |
| Most important symptoms and effects, both acute and delaye                 | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11                 |
| Indication of any immediate medical attention and special treatment needed | No data available                                                                                                                   |

#### 5. Fire-fighting Measures

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|                                                       |                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammability                                          | No data available                                                                                                                                                                                                                                                                      |
| Suitable extinguishing media                          | Carbon dioxide (CO2) Dry powder Water Foam                                                                                                                                                                                                                                             |
| Unsuitable extinguishing media                        | No data available                                                                                                                                                                                                                                                                      |
| Special hazards arising from the substance or mixture | Carbon oxides Sulfur oxides Combustible. Fire may cause evolution of: Sulfur oxides Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire. |
| Further information                                   | Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.                                                                                                                         |
| Hazardous combustion products                         | No data available                                                                                                                                                                                                                                                                      |
| Advice for firefighters                               | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.                                                                                                                          |
| Protective Equipment                                  | No data available                                                                                                                                                                                                                                                                      |
| Specific Hazards Arising from the Chemical            | No data available                                                                                                                                                                                                                                                                      |

#### 6. Accidental Release Measures

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|                                                                     |                                                                                                                                                                                                        |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.                       |
| Spillage                                                            | No data available                                                                                                                                                                                      |
| Personal Protection                                                 | No data available                                                                                                                                                                                      |
| Environmental Precaution                                            | Do not let product enter drains. Risk of explosion.                                                                                                                                                    |
| Methods and materials for containment and cleaning                  | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts. |
| Reference to other sections                                         | For disposal see section 13.                                                                                                                                                                           |

## 7. Handling and Storage

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|                                                             |                                                                                        |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Advice on protection against fire and explosion             | No data available                                                                      |
| Incompatible materials                                      | No data available                                                                      |
| Hygiene measures                                            | No data available                                                                      |
| Advice on safe handling                                     | For precautions see section 2.2.                                                       |
| Conditions for safe storage including any incompatibilities | No data available                                                                      |
| Storage conditions                                          | No metal containers. Tightly closed. Recommended storage temperature see product label |
| Storage class                                               | Storage class (TRGS 510) 8A Combustible, corrosive hazardous materials                 |
| Specific end use(s)                                         | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated     |
| Advice on general occupational hygiene                      | No data available                                                                      |

## 8. Exposure controls and personal protection

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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exposure controls   | Personal protective equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Engineering Control | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Eye/face protection | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Body Protection     | Acid-resistant protective clothing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Skin protection     | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:Butoject® (KCL 898) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,4 mm Break through time: 120 min Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M) |

|                          |                                                                                                                                                                                                                                                            |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory protection   | Recommended Filter type Filter type B The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented |
| Other Protection Measure | No data available                                                                                                                                                                                                                                          |

## 9. Physical and chemical properties

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|                                              |                                                                        |
|----------------------------------------------|------------------------------------------------------------------------|
| Physical state                               | Liquid                                                                 |
| Colour                                       | Colorless                                                              |
| Odour                                        | Characteristic                                                         |
| Odor Threshold                               | No data available                                                      |
| pH                                           | < 1 at 20 °C                                                           |
| Melting Point                                | 20 °C                                                                  |
| Boiling Point                                | 167 °C at 13,3 hPa                                                     |
| Flash Point                                  | 189 °C - closed cup - DIN 51755 Part 1                                 |
| Evaporation Rate                             | No data available                                                      |
| Flammability (solid, gas)                    | No data available                                                      |
| Explosive limits                             | No data Available                                                      |
| Upper/lower flammability or explosive limits | Upper explosion limit 24,3 %(V) Lower explosion limit 11,4 %(V)        |
| Autoignition temperature                     | 535 °C at 1.010 hPa - DIN 51794                                        |
| Decomposition temperature                    | No data available                                                      |
| Vapour pressure                              | 0,112 hPa at 80 °C - OECD Test Guideline 104                           |
| Viscosity                                    | Kinematic 7,86 mm <sup>2</sup> /s at 25 °C Dynamic 11,6 mPa.s at 25 °C |
| Density                                      | 1,4812 g/cm <sup>3</sup> at 18 °C                                      |
| Relative Density                             | No data available                                                      |
| Specific Gravity                             | No data available                                                      |
| Partition coefficient                        | Log Pow -2,38 at 20 °C - - Bioaccumulation is not expected.            |
| Explosive properties                         | No data available                                                      |
| Solubility                                   | ca.1.000 g/l at 20 °C - completely miscible                            |
| Ignition temperature                         | No data available                                                      |
| Particle characteristics                     | No data available                                                      |

## 10. Stability and reactivity

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|                    |                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity         | Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical. |
| Chemical stability | The product is chemically stable under standard ambient conditions (room temperature)                                                  |

|                                    |                                                                                                                                                                                                                      |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Possibility of hazardous reactions | Violent reactions possible with strong alkalis Oxidizing agents strong reducing agents Amines Hydrogen fluoride acids strong alkalis Bases Risk of explosion with: Hydrogen fluoride Exothermic reaction with: Water |
| Conditions to avoid                | Strong heating.                                                                                                                                                                                                      |
| Incompatible materials             | Various metals, i.e., Iron, Copper, brass, Mild steel                                                                                                                                                                |
| Hazardous decomposition products   | In the event of fire: see section 5                                                                                                                                                                                  |

## 11. Toxicological information

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|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute toxicity                                   | Acute toxicity estimate Oral - 648,76 mg/kg (Calculation method) LD50 Oral - Rat - male and female - 648,7 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Dermal - > 2.000 mg/kg (Calculation method) LD50 Dermal - Rabbit - male and female - 2.000 mg/kg (OECD Test Guideline 402)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Skin corrosion/irritation                        | Skin - In vitro study Causes burns. - 4 h (OECD Test Guideline 435)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Serious eye damage/irritation                    | Eyes - Rabbit Causes burns. (OECD Test Guideline 405)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Respiratory or skin sensitization                | Buehler Test - Guinea pig negative (OECD Test Guideline 406)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Carcinogenicity                                  | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Germ cell mutagenicity                           | Test Type Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: In vivo micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 47                                                                                                                                                                                                                                                                                                                       |
| Reproductive toxicity                            | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Specific target organ toxicity - single exposure | May cause respiratory irritation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Additional Information                           | he substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Repeated dose toxicity - Rat - male - Oral - 7 Days - NOAEL (No observed adverse effect level) - $\geq$ 1.805 mg/kg Remarks: (ECHA) burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |

## 12. Ecological information

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|                                                     |                                                                                                                                             |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability                       | Biodegradability aerobic Chemical oxygen demand - Exposure time 28 d Result: 90 - 100 % - Readily biodegradable. (OECD Test Guideline 301A) |
| Toxicity to fish                                    | Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 73 mg/l - 96 h (OECD Test Guideline 203)                                           |
| Toxicity to daphnia and other aquatic invertebrates | Static test EC50 - Daphnia magna (Water flea) - 70 mg/l - 48 h (OECD Test Guideline 202)                                                    |
| Toxicity                                            | No data available                                                                                                                           |

|                                    |                                                                                                                                                                                                                                                            |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to bacteria               | Static test EC50 - activated sludge - > 1.000 mg/l - 0,5 h (OECD Test Guideline 209)                                                                                                                                                                       |
| Toxicity to algae                  | Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 12 - 24 mg/l - 72 h (OECD Test Guideline 201)                                                                                                                                          |
| Products Biodegradation            | No data available                                                                                                                                                                                                                                          |
| Mobility in soil                   | No data available                                                                                                                                                                                                                                          |
| Results of PBT and vPvB assessment | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.                                                         |
| Endocrine disrupting properties    | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher |
| Other adverse effects              | No data available                                                                                                                                                                                                                                          |

### 13. Disposal considerations

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|                        |                   |
|------------------------|-------------------|
| Product                | No data available |
| Contaminated packaging | No data available |
| Waste treatment Method | No data available |

### 14. Transport information

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|                              |                                                                          |                                                                       |                                                                       |
|------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| UN number                    | ADR/RID:3265                                                             | IMDG:3265                                                             | IATA:3265                                                             |
| UN proper shipping name      | ADR/RID:CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Methanesulfonic acid) | IMDG:CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Methanesulfonic acid) | IATA:CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Methanesulfonic acid) |
| Transport hazard class(es)   | ADR/RID:8                                                                | IMDG:8                                                                | IATA:8                                                                |
| Packaging group              | ADR/RID:II                                                               | IMDG:II                                                               | IATA:II                                                               |
| Environmental hazards        | ADR/RID:No                                                               | IMDG:No                                                               | IATA:No                                                               |
| Special precautions for user | Tunnel restriction code (E)                                              |                                                                       |                                                                       |
| Further information          | No data available                                                        |                                                                       |                                                                       |

### 15. Regulatory information

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|                                                                                                |                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety, health and environmental regulations/legislation specific for the substance or mixture | This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.                                                                                                                |
| Other regulations                                                                              | Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. |
| Chemical Safety Assessment                                                                     | A Chemical Safety Assessment has been carried out for this substance.                                                                                                                                           |

## 16. Other information

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|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Information | <p>The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.</p> <p><b>DISCLAIMER OF LIABILITY :</b> The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.</p> |
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