



# RXSOL

VARANASI CHEMICAL | RX MARINE INTERNATIONAL

**RXSOL-19-3772-026**  
CHOLINE CHLORIDE

## Material Safety Data Sheet (MSDS)

### 1. Product and Company Identification

|              |                   |
|--------------|-------------------|
| Product Name | CHOLINE CHLORIDE  |
| Part Number  | RXSOL-19-3772-026 |

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

|         |                                                          |
|---------|----------------------------------------------------------|
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### 2. Composition / informationon ingredients

#### Substances

|                  |                                            |
|------------------|--------------------------------------------|
| Synonyms         | (2-Hydroxyethyl)trimethylammonium chloride |
| Formula          | $C_5H_{14}ClNO$                            |
| Molecular weight | 139,62 g/mol                               |
| CAS-No           | 67-48-1                                    |
| EC-No.           | 200-655-4                                  |

No components need to be disclosed according to the applicable regulations.

### 3. Hazards Identification

|                                            |                                                                                                     |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Classification of the substance or mixture | Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.                     |
| Label elements                             | No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other hazards | <p>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.</p> <p>Ecological information:<br/>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.</p> <p>Toxicological information:<br/>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.</p> |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 4. First Aid Measures

### Description of first aid measures

|                                                                                   |                                                                                                                     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>If inhaled</b>                                                                 | After inhalation: fresh air.                                                                                        |
| <b>In case of skin contact</b>                                                    | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower              |
| <b>In case of eye contact</b>                                                     | After eye contact: rinse out with plenty of water. Remove contact lenses.                                           |
| <b>If swallowed</b>                                                               | After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.                  |
| <b>Most important symptoms and effects, both acute and delayed</b>                | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| <b>Indication of any immediate medical attention and special treatment needed</b> | No data available                                                                                                   |

## 5. Fire-fighting Measures

### Extinguishing media

|                                                              |                                                                                                                                                                                   |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media</b>                          | Water Foam Carbon dioxide (CO2) Dry powder                                                                                                                                        |
| <b>Unsuitable extinguishing media</b>                        | For this substance/mixture no limitations of extinguishing agents are given.                                                                                                      |
| <b>Special hazards arising from the substance or mixture</b> | <p>Carbon oxides<br/>Nitrogen oxides (NOx)<br/>Hydrogen chloride gas<br/>Combustible.<br/>Development of hazardous combustion gases or vapours possible in the event of fire.</p> |
| <b>Advice for firefighters</b>                               | In the event of fire, wear self-contained breathing apparatus.                                                                                                                    |
| <b>Further information</b>                                   | Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.                    |

## 6. Accidental Release Measures

|                                                                     |                                                                                                                                                                                                        |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                       |
| Environmental precautions                                           | Do not let product enter drains.                                                                                                                                                                       |
| Methods and materials for containment and cleaning up               | 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

|                                                              |                                                                                    |
|--------------------------------------------------------------|------------------------------------------------------------------------------------|
| Precautions for safe handling                                | For precautions see section 2.2.                                                   |
| Conditions for safe storage, including any incompatibilities | Recommended storage temperature see product label.                                 |
| Specific end use(s)                                          | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated |

## 8. Exposure controls and personal protection

### Control parameters

### Ingredients with workplace control parameters

### Exposure controls

### Personal protective equipment

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Skin protection     | <p>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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a>).</p> <p>Full contact<br/>Material: Nitrile rubber<br/>Minimum layer thickness: 0,11 mm<br/>Break through time: 480 min<br/>Material tested:KCL 741 Dermatril® L</p> <p>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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a>).</p> <p>Splash contact<br/>Material: Nitrile rubber<br/>Minimum layer thickness: 0,11 mm<br/>Break through time: 480 min<br/>Material tested:KCL 741 Dermatril® L</p> |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory protection            | <p>Required when dusts are generated.<br/>Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.<br/>Recommended Filter type: Filter type P1</p> <p>The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.<br/>These measures have to be properly documented.</p> |
| Control of environmental exposure | Do not let product enter drains..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

|                                              |                                                                                                                                                                        |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                               | Solid                                                                                                                                                                  |
| Color                                        | White                                                                                                                                                                  |
| Odor                                         | No data available                                                                                                                                                      |
| Melting point/freezing point                 | Melting point/range: 302 - 305 °C - dec.                                                                                                                               |
| Initial boiling point and boiling range      | Ca.300 °C at ca.1.013 hPa - OECD Test Guideline 103                                                                                                                    |
| Flammability (solid, gas)                    | No data available                                                                                                                                                      |
| Upper/lower flammability or explosive limits | No data available                                                                                                                                                      |
| Flash point                                  | Not applicable                                                                                                                                                         |
| Autoignition temperature                     | 330 °C                                                                                                                                                                 |
| Decomposition temperature                    | No data available                                                                                                                                                      |
| pH                                           | 5,0 - 6,5 at 140 g/l at 25 °C                                                                                                                                          |
| Viscosity                                    | <p>Viscosity, kinematic: No data available</p> <p>Viscosity, dynamic: 26,2 mPa.s at 20 °C - OECD Test Guideline 11414,1 m Pa. s at 40 °C - OECD Test Guideline 114</p> |
| Water solubility                             | 140 g/l                                                                                                                                                                |
| Partition coefficient: n-octanol/water       | Log Pow: -3,77 at 25 °C - Bioaccumulation is not expected.                                                                                                             |
| Vapor pressure                               | No data available                                                                                                                                                      |
| Density                                      | No data available                                                                                                                                                      |
| Relative density                             | No data available                                                                                                                                                      |
| Relative vapor density                       | No data available                                                                                                                                                      |
| Particle characteristics                     | No data available                                                                                                                                                      |
| Explosive properties                         | No data available                                                                                                                                                      |
| Oxidizing properties                         | None                                                                                                                                                                   |
| Other safety information                     | No data available                                                                                                                                                      |

## 10. Stability and reactivity

|                                           |                                                                                                                                                                                           |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. |
| <b>Chemical stability</b>                 | The product is chemically stable under standard ambient conditions (room temperature) .                                                                                                   |
| <b>Possibility of hazardous reactions</b> | Violent reactions possible with:<br>Strong oxidizing agents<br>Strong acids<br>Strong bases                                                                                               |
| <b>Conditions to avoid</b>                | No information available                                                                                                                                                                  |
| <b>Incompatible materials</b>             | Strong acids                                                                                                                                                                              |
| <b>Hazardous decomposition products</b>   | In the event of fire: see section 5                                                                                                                                                       |

## 11. Toxicological information

### Information on toxicological effects

|                                   |                                                                                                                                                                                                                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute toxicity</b>             | LD50 Oral - Mouse - 3.900 mg/kg<br>Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation.<br>Behavioral:Convulsions or effect on seizure threshold.<br>Respiratory disorder (RTECS)<br>Inhalation: No data available<br>Dermal: No data available |
| <b>Skin corrosion/irritation</b>  | Skin - Rabbit<br>Result: No skin irritation - 20 h<br>Remarks: (ECHA)                                                                                                                                                                                                            |
| Serious eye damage/eye irritation | Eyes - Rabbit<br>Result: No eye irritation<br>Remarks: (ECHA)                                                                                                                                                                                                                    |
| Respiratory or skin sensitization | No data available                                                                                                                                                                                                                                                                |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Germ cell mutagenicity                             | <p>Test Type: Micronucleus test<br/> Test system: Human lymphocytes<br/> Metabolic activation: with and without metabolic activation<br/> Method: OECD Test Guideline 487<br/> Result: negative<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Disodium molybdate dihydrate</p> <p>Test Type: Ames test<br/> Test system: Escherichia coli/Salmonella typhimurium<br/> Metabolic activation: with and without metabolic activation<br/> Method: OECD Test Guideline 471<br/> Result: negative<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Disodium molybdate dihydrate</p> <p>Test Type: In vitro mammalian cell gene mutation test<br/> Test system: mouse lymphoma cells<br/> Metabolic activation: with and without metabolic activation<br/> Method: OECD Test Guideline 476<br/> Result: negative<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Disodium molybdate dihydrate</p> |
| Carcinogenicity                                    | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Reproductive toxicity                              | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Specific target organ toxicity - single exposure   | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Specific target organ toxicity - repeated exposure | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Aspiration hazard</b>                           | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## 12. Ecological information

|                                                     |                                                                                                                                                                                                                                  |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability                       | No data available                                                                                                                                                                                                                |
| Toxicity to fish                                    | Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h (OECD Test Guideline 203)                                                                                                                                |
| Toxicity to daphnia and other aquatic invertebrates | Static test EC50 - Daphnia magna (Water flea) - 42,81 mg/l - 48 h (OECD Test Guideline 202) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: maleic acid                     |
| Toxicity                                            | Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1.520 mg/l - 96 h                                                                                                                                                 |
| Toxicity to bacteria                                | EC10 - Bacteria - 14 mg/l - 72 h Remarks: (Lit.) EC5 - E.coli - 15.000 mg/l Remarks: (Lit.) (maximum permissible toxic concentration)                                                                                            |
| Toxicity to algae                                   | Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 74,35 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: maleic acid |
| Products Biodegradation                             | The methods for determining the biological degradability are not applicable to inorganic substances.                                                                                                                             |
| 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 | No data available   |
| Other adverse effects           | No data available . |

### 13. Disposal considerations

|                        |                                                                                                                                                                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                | Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. |
| Contaminated packaging | Dispose of as unused product.                                                                                                                                                                                                                                                                                                                |
| Waste treatment Method | See <a href="http://www.retrologistik.com">www.retrologistik.com</a> for processes regarding the return of chemicals and containers, or contact us there if you have further questions.                                                                                                                                                      |

### 14. Transport information

|                              |                                                                      |                    |                    |
|------------------------------|----------------------------------------------------------------------|--------------------|--------------------|
| UN number                    | ADR/RID:2404                                                         | IMDG:2404          | IATA: 2404         |
| UN proper shipping name      | ADR/RID:PROPIONITRILE                                                | IMDG:PROPIONITRILE | IATA:PROPIONITRILE |
| Transport hazard class(es)   | ADR/RID: 3 (6.1)                                                     | IMDG: 3 (6.1)      | IATA:3 (6.1)       |
| Packaging group              | ADR/RID: II                                                          | IMDG: II           | IATA:II            |
| Environmental hazards        | ADR/RID: No                                                          | IMDG: No           | IATA: No           |
| Special precautions for user | No data available                                                    |                    |                    |
| Further information          | Not classified as dangerous in the meaning of transport regulations. |                    |                    |

### 15. Regulatory information

|                                                                                                |                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                     | For this product a chemical safety assessment was not carried out                                                                                                                                               |

### 16. Other information

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 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>DISCLAIMER OF LIABILITY :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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