

SAFETY DATA SHEET

TRIETHANOLAMINE 99%

SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

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| 1.1 Product identifier: | |
| CAS Number: | 102-71-6 |
| EC number: | 203-049-8 |
| 1.2 SYNONYMS: | <ul style="list-style-type: none">• TEA• Trihydroxyethylamine• N-(2-Hydroxyethyl)ethanolamine• 2-amino-2-(hydroxymethyl)-1-propanol• Triethanolamine (99%)• 2,2',2''-Nitrilotriethanol |

SECTION 2: Hazards identification:

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| 2.1 Classification of the substance or mixture: | Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation. |
| 2.2 Label elements: | Labelling according to Regulation (EC) No 1272/2008 Acute Toxicity, Oral (Category 4) Skin Irritation (Category 2) Eye Irritation (Category 2A) Respiratory or Skin Sensitization (Category 1) Specific Target Organ Toxicity (STOT) (Category 3) Aquatic Toxicity (Category 3) |
| Hazard Pictograms: |  |
| Signal Word: | Danger |
| Hazard statements: | H315: Causes skin irritation. H319: Causes serious eye irritation. H317: May cause an allergic skin reaction. H335: May cause respiratory irritation. H412: Harmful to aquatic life with long-lasting effects. |

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| <p>Precautionary Statements:</p> | <p>P261: Avoid breathing mist/vapors/spray. P264: Wash hands thoroughly after handling. P272: Keep contaminated clothing at work. P280: Wear protective gloves/eye protection. P302+P352: IF ON SKIN: Wash with soap and water. P304+P340: IF INHALED: Move to fresh air. P305+P351+P338: IF IN EYES: Rinse with water for several minutes. P333+P313: If skin irritation occurs: Seek medical advice. P337+P313: If eye irritation persists: Seek medical advice. P405: Store locked up. P501: Dispose of contents/container to an approved facility.</p> |
| <p>2.3 Other hazards:</p> | |
| <p>Inhalation:</p> | <p>may cause respiratory irritation, coughing, and difficulty breathing.</p> |
| <p>Ingestion:</p> | <p>can cause gastrointestinal irritation, nausea, vomiting, and abdominal pain.</p> |
| <p>Skin Contact:</p> | <p>can cause irritation, redness, and possibly an allergic skin reaction.</p> |
| <p>Eye contact:</p> | <p>can cause serious irritation, redness, pain, and possible damage to the eyes.</p> |
| <p>Chronic Exposure:</p> | <p>may lead to skin sensitization, prolonged irritation of the skin and eyes, and potential respiratory issues.</p> |
| <p>Aggravation of pre-existing conditions:</p> | <p>may exacerbate conditions such as asthma, skin disorders, or respiratory issues in individuals with sensitive skin or pre-existing respiratory conditions.</p> |

SECTION 3: Composition/information on ingredients

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| 3.1 Chemical characterisation: | Substances |
| CAS No: | Description: 102-71-6 TRIETHANOLAMINE |
| Identification number(s): | EC number: 203-049-8 |

SECTION 4: First aid measures

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| 4.1 Description of first aid measures | |
| General information: | |
| After inhalation: | If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| After skin contact: | Remove contaminated clothing. Wash with soap and water. Consult a physician. |
| After eye contact: | Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician. |
| After swallowing: | Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician. |
| 4.2 Most important symptoms and effects, both acute and delayed: | acute skin and eye irritation, respiratory discomfort, and gastrointestinal issues, with delayed effects such as skin sensitization and chronic respiratory irritation. |
| 4.3 Indication of any immediate medical attention and special treatment needed: | Treat symptomatically. |

SECTION 5: Firefighting measures

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| 5.1 Extinguishing media: | Carbon dioxide. Water spray. Alcohol-resistant foam. |
| 5.2 Special hazards arising from the substance or mixture: | Carbon oxides, nitrogen oxides. |

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| 5.3 Advice for firefighters: | Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety. |
| 5.4 further information: | no data available |

SECTION 6: Accidental release measures

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| 6.1 Personal precautions, protective equipment and emergency procedures: | Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention. |
| 6.2 Environmental precautions: | Do not enter this chemical into drains. |
| 6.3 Methods and material for containment and cleaning up: | Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. |

SECTION 7: Handling and storage

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| 7.1 Precautions for safe handling: | For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation. |
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| 7.2 Conditions for safe storage, including any incompatibilities: | Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area. |
| Requirements to be met by storerooms and receptacles: | Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. |
| 7.3 Specific end uses: | no data available |

SECTION 8: Exposure controls/personal protection

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| 8.1 Control parameters | |
| Additional information about design of technical facilities: | A system of local and general exhaust is recommended. |
| 8.2 Exposure controls | |
| Appropriate engineering controls | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| Personal protective equipment: | Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc. |
| General protective and hygienic measures: | Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment. |
| | Respiratory protection: Required. |

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| Protection of hands: | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands. |
| | Eye protection: Required |
| Protection of Body: | Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. |

SECTION 9: Physical and chemical properties

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| 9.1 Information on basic physical and chemical properties | |
| General Information | |
| Appearance: Form: | Liquid |
| Colour: | Colourless to slight yellow |
| Odour: | Slight ammonia like odour |
| pH-value: | 11 |
| Melting point/Melting range: | -10°C |
| Boiling point/Boiling range: | 335°C |
| Flammability (solid, gaseous): | Non- flammable |
| Ignition temperature: | 430°C |
| Decomposition temperature: | 300°C |
| Self-igniting: | None |
| Flash point: | 123°C |
| Danger of explosion: | None |
| Explosion limits: Lower: | No data available |
| Explosion limits: Upper: | No data available |
| Vapour pressure: | 0.04 mm Hg at 20°C |
| Density at 20 °C: | 1.124 g/cm ³ |
| Relative density: | 1.124 |
| Vapour density: | 3.2 |
| Evaporation rate: | No data available |
| Solubility in / Miscibility with- water at 20 °C: | Highly soluble |
| Partition coefficient:(n- octanol/water) | -1.1 |
| Viscosity: | 40 mPa.s at 20°C |

SECTION 10: Stability and reactivity

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| 10.1 Reactivity | May react with strong oxidizers. |
| 10.2 Chemical stability | This chemical is stable under storage conditions. |
| 10.3 Possibility of hazardous reactions | No data available |
| 10.4 Conditions to avoid | Heat, flames. |
| 10.5 Incompatible materials | Non- ferrous metals, light metals. |
| 10.6 Hazardous decomposition products | carbon monoxide, carbon dioxide. |

SECTION 11: Toxicological information

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| 11.1 Information on toxicological effects | |
| Acute Toxicity: | LD50 (Oral, Rat): 6400 mg/kg LD50 (Dermal, Rabbit): 2000 mg/kg LC50 (Inhalation Rat): no data available |
| Skin corrosion/Irritation: | No data available |
| Serious eye damage/irritation: | No data available |
| Respiratory damage/irritation: | No data available |
| Ingestion: | May cause gastrointestinal irritation. |
| Germ cell mutagenicity: | No data available |
| Carcinogenicity: | No data available |
| Reproductive toxicity: | No data available |
| Specific target organ toxicity - single exposure: | May cause respiratory irritation |
| Specific target organ toxicity - repeated exposure: | No data available |
| Aspiration hazard: | No data available |
| Signs and Symptoms of Exposure: | Refer section 2.3 |
| 11.2 Additional toxicological information | |
| Biodegradability: | Readily Biodegradable |

SECTION 12: Ecological information

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| 12.1 Toxicity Aquatic toxicity: | LC50(fish): 11.800 mg/l (96hr) EC50(daphnia): 16 mg/l (21d) EC50(algae): 216 mg/l (72hr) |
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| 12.2 Persistence and degradability: | Readily biodegradable |
| 12.3 Bioaccumulative potential: | low bioaccumulative |
| 12.4 Mobility in soil: | moderate mobility |
| 12.5 Other adverse effects: | No data available |

SECTION 13: Disposal considerations

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| 13.1 Waste treatment methods | |
| Uncleaned packaging Recommendation: | dispose of in accordance with local hazardous waste regulations |
| Recommended cleansing agents: | Water, soap or detergents, isopropyl alcohol, acidic cleaning solutions. |

SECTION 14: Transport information

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| 14.1 UN-Number · ADR, ADN, IMDG, IATA: | 2491 |
| 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA: | TRIETHANOLAMINE |
| 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA : | 8 |
| 14.4 Packing group · ADR, IMDG, IATA: | 3 |
| 14.5 Environmental hazards: | Yes, harmful to aquatic life. |
| 14.6 Special precautions for user: | Handle responsibly. |

SECTION 15: Regulatory information

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| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU | Directive 2012/18/EU, under that this substance is classified in listed substance as environmental hazard. |
| Named dangerous substances: | This substance is not listed in the annex 1 to the directive. |
| 15.2 Chemical safety assessment: | Chemical assessment has not been carried out. |

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness

Multichem Exports LLP.
1315, Dalamal Tower,
Nariman Point, Mumbai 400021, India
T: +91 6301006301
E: sales@multichemexports.com
www.multichemexports.com



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