

Material Safety Data Sheet

| HAZARD WARNINGS | RISK PHRASES | PROTECTIVE CLOTHING |
|---|--|---|
|    | Flammable material; avoid heat and sources of ignition. Corrosive to eyes and skin on contact. Toxic compound, do not ingest or inhale. Avoid all contact with this material. |  |

Section I. Chemical Product and Company Identification

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|------------------|---|---------------------------------|---|
| Chemical Name | Isopropylamine | | |
| Catalog Number | I0165 | Supplier | TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616 |
| Synonym | 2-Aminopropane | | |
| Chemical Formula | (CH ₃) ₂ CHNH ₂ | | |
| CAS Number | 75-31-0 | In case of Emergency Call | Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International) |

Section II. Composition and Information on Ingredients

| Chemical Name | CAS Number | Percent (%) | TLV/PEL | Toxicology Data |
|----------------|------------|-------------------|----------------|---|
| Isopropylamine | 75-31-0 | Min. 99.0 (GC) | Not available. | Rat LD ₅₀ (oral) 111mg/kg Rabbit LD ₅₀ (dermal) 380mg/kg Rat LC ₅₀ (inhalation) 4000ppm/4H |

Section III. Hazards Identification

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| Acute Health Effects | Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. |
| Chronic Health Effects | CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. |

Section IV. First Aid Measures

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| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. |
| Inhalation | If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve. |
| Ingestion | DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. SEEK IMMEDIATE MEDICAL ATTENTION in case of ingestion of a radioactive material. |

Section V. Fire and Explosion Data

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| Flammability | Flammable. | Auto-Ignition | 401°C (753.8°F) |
| Flash Points | -3°C (26.6°F). | Flammable Limits | LOWER: 2% UPPER: 10.4% |
| Combustion Products | These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂). | | |
| Fire Hazards | Not available. | | |
| Explosion Hazards | Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. | | |

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Emergency phone number (800) 424-9300

Fire Fighting Media
and Instructions

Flammable liquid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Flammable liquid. Corrosive liquid. Toxic liquid.
Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and StorageHandling and Storage
Information

FLAMMABLE. TOXIC. CORROSIVE. Keep locked up.. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively.
Always store away from incompatible compounds such as oxidizing agents, acids.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection

Face shield. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.



Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

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| Physical state @ 20°C | Liquid. (Clear, colorless.) | Solubility | Very soluble in acetone. Miscible in ethanol, ether, water. |
| Specific Gravity | 0.694 (water=1) | | |
| Molecular Weight | 59.11 | Partition Coefficient | Not available. |
| Boiling Point | 33°C (91.4°F) | Vapor Pressure | 62.7 kPa (@ 20°C) |
| Melting Point | -101°C (-149.8°F) | Vapor Density | 2.04 (Air = 1) |
| Refractive Index | 1.3770 @ 15°C | Volatility | Not available. |
| Critical Temperature | Not available. | Odor | Ammoniacal. |
| Viscosity | Not available. | Taste | Not available. |

Section X. Stability and Reactivity Data

Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light.

Incompatibilities

Reactive with strong oxidizing agents, acids, acid chlorides, acid anhydrides.

Section XI. Toxicological Information

RTECS Number

NT8400000

Routes of Exposure

Eye Contact. Ingestion. inhalation. Skin contact.

Toxicity Data

Rat LD₅₀ (oral) 111mg/kg
Rabbit LD₅₀ (dermal) 380mg/kg
Rat LC₅₀ (inhalation) 4000ppm/4H

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY Not available.
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

| | |
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| Acute Toxic Effects | Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. |
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Section XII. Ecological Information

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| Ecotoxicity | Not available. |
| Environmental Fate | Isopropylamine's production and use as a solvent, chemical intermediate and solubilizer for 2,4-D acid has resulted in its release to the environment through various waste streams. Isopropylamine is a natural component of tobacco and maize, and it may be released to the environment through their decomposition. Decomposing animal manure has also been shown to release isopropylamine to the environment. If released to air, a vapor pressure of 580 mm Hg at 25 deg C indicates isopropylamine will exist solely as a vapor in the ambient atmosphere. Vapor-phase isopropylamine will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 10 hours. If released to soil, isopropylamine is expected to have very high mobility based upon an estimated Koc of 30, however a pKa value of 10.63 indicates that isopropylamine will exist primarily in the protonated form in the environment and therefore, it might adsorb because cations generally tend to adsorb strongly to soils. Volatilization from moist soil surfaces is not expected to be an important fate process because the protonated form of isopropylamine is not expected to volatilize. Isopropylamine may volatilize from dry soil surfaces based upon its vapor pressure. Isopropylamine was completely degraded using an activated sludge inoculum in an aerobic screening test within a 2 day period, suggesting that biodegradation may be rapid in the environment. If released into water, isopropylamine's pKa value indicates that the protonated form will be the dominant species under most environmental conditions. The neutral species is not expected to adsorb to suspended solids and sediment in the water column based upon the estimated Koc; however, the cation is expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is not expected to be an important fate process since the protonated form is not expected to volatilize. An estimated BCF of 1 suggests the potential for bioconcentration in aquatic organisms is low. Occupational exposure to isopropylamine may occur through inhalation dermal contact with this compound at workplaces where isopropylamine is produced or used. The general population may be exposed to isopropylamine through the ingestion of food or the use of tobacco products. |

Section XIII. Disposal Considerations

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| Waste Disposal | Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance. |
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Section XIV. Transport Information

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| DOT Classification | Class 3: Flammable liquid. Class 8: Corrosive material. |
| PIN Number | UN1221 |
| Proper Shipping Name | Isopropylamine. |
| Packing Group (PG) | I |
| DOT Pictograms |   |

Section XV. Other Regulatory Information and Pictograms

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| TSCA Chemical Inventory (EPA) | This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list. |
| WHMIS Classification (Canada) | CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive liquid. |
| EINECS Number (EEC) | 200-860-9 |
| EEC Risk Statements | R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R34- Causes burns. |
| Japanese Regulatory Data | ENCS No. 2-0131 |

Section XVI. Other Information

Version 1.0
Validated on 1/4/2001.
Printed 2/22/2005.

Notice to Reader

Continued on Next Page

Emergency phone number (800) 424-9300

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.