

SAFETY DATA SHEET



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All non-emergency numbers should be directed
to Customer Service at 800-PURITY1

N,N-DIISOPROPYLETHYLAMINE

SDS No. M0111

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: N,N-Diisopropylethylamine

Synonyms: N-Ethyldiisopropylamine; Hünig's base; EDIPA; Ethyldiisopropylamine; DIPEA

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Classification:

Flammable Liquids: GHS Category 2

Acute Toxicity, Oral: GHS Category 4

Acute Toxicity, Inhalation: GHS Category 3

Serious Eye Damage: GHS Category 1

Specific Target Organ Toxicity – single exposure: GHS Category 3

Acute Aquatic Toxicity: GHS Category 3

Label Elements

Signal Word: DANGER!

Hazard Statements:

H225 – Highly flammable liquid and vapor.

H302 – Harmful if swallowed.

H318 – Causes serious eye damage.

H331 – Toxic if inhaled.

H335 – May cause respiratory irritation.

Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233 – Keep container tightly closed.

P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P284 – Wear respiratory protection.

P301+P310 – If SWALLOWED: Immediately call or POISON CENTER or a doctor/physician.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Clear focus. Consistent results. Complete confidence.

P304+P340+P311 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician.

Emergency Overview

Cause burns by all exposure routes. Highly flammable liquid and vapor. Target Organs: Respiratory track, eyes, skin, and mucous membrane.

HMIS Rating:

Health – 4 Flammability – 3 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Diisopropylethylamine	7087-68-5	>99%	Yes

4. FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give oxygen. If not breathing, begin artificial respiration, but DO NOT give mouth-to-mouth resuscitation. Get medical attention.

Ingestion: If swallowed, get medical attention immediately; DO NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing and shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Highly flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 240° C (464° F)

Flash Point: 12° C (54° F)

Flammable Limits: Lower Limit – 3 vol %, Upper Limit – 17 vol %

Products of Combustion: May decompose into toxic products under fire conditions (nitrogen oxides, carbon monoxide, carbon dioxide, ammonia, and nitriles).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and reignite. Run-off from the fire may cause pollution.

Specific Explosion Hazards: Containers may explode in the heat of a fire.

Fire Fighting Media: Water may be ineffective. Do NOT use straight streams of water. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

National Fire Protective Association (Estimated): Health - 4, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Water can be used to create a non-flammable mixture. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Avoid run-off in streams and ditches that lead to water ways. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles and face shield for eye and face protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits: None established

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear to light yellow liquid.

Odor: Strong Amine- like odor

Molecular Formula: $(\text{CH}_3)_2\text{CHNHCH}(\text{CH}_3)_2$

Molecular Weight: 129.24

Auto-ignition Temperature: 240° C (464° F)

Flash Point: 12° C (54° F)

Flammable Limits: Lower Limit – 3 vol %, Upper Limit – 17 vol %

pH: 12.3

Boiling Point: 127° C @ 760 mm Hg

Freezing/Melting Point: -50° C

Decomposition Temperature: Not available.

Specific Gravity: 0.760 g/cm³

Vapor Density (Air=1): Not available.

Vapor Pressure: 31 mm Hg @ 37.7° C.

Viscosity: Not available.

Solubility: 3.9g/L @ 20° C.

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures. Amines absorb carbon dioxide from the air to form carbamate salts.

Conditions to Avoid: Light, ignition sources, moisture, prolonged exposure to air, confined spaces, Avoid aluminum, zinc, copper and their alloys.

Incompatibility with Various Substances: Strong oxidizing agents, strong, and aldehydes.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, ammonia, and nitriles.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Cause chemical burns in respiratory tract.

INGESTION HAZARD: Causes gastrointestinal tract burns. Harmful if swallowed.

SKIN CONTACT HAZARD: Causes skin burns.

EYE CONTACT HAZARD: Causes eye burns.

Chronic Exposure Hazards: Chronic exposure may produce effects similar to acute exposure.

Animal Toxicity:

LD50 (oral, rat): > 315 mg/kg (OECD Test guideline 423);

LC50 (inhalation, rat, 4h): > 2.63 mg/l (OECD Test Guideline 403);

LD0 (dermal, rat) > 2000 mg/kg (OECD Test Guideline 402);

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Toxicity to fish

Danio rerio: LC50 – 69.7 mg/l; 96H;

Toxicity to daphnia and other aquatic invertebrates

Daphnia: EC50 – 28.1 mg/l; 48H;

Toxicity to algae

Pseudokirchneriella subcapitata: EC50 – 150 mg/l; 72H;

Environmental: Slightly biodegradable. Avoid entering into waters or underground water.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s. (Ethyl-diisopropylamine)

Hazard Class: 6.1 (3)

UN Number: UN3384

Packing Group: I

IMDG

Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s. (Ethyl-diisopropylamine)

Hazard Class: 6.1 (3)
UN Number: UN3384
Packing Group: I

IATA

Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s. (Ethyl-diisopropylamine)
Hazard Class: 6.1 (3)
UN Number: UN3384
Packing Group: I
IATA Passenger: Not permitted for transportation.
IATA Cargo: Not permitted for transportation.

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 7087-68-5 is listed on the TSCA Inventory.
Health and Safety Reporting List: CAS# 7087-68-5: Effective 6/1/87, sunset 6/1/97.
Chemical Test Rules: CAS# 7087-68-5 is not listed.
Section 12b: CAS# 7087-68-5 is not listed.
TSCA Significant New Use Rule: CAS# 7087-68-5 does not have an SNUR under TSCA.
CERCLA Hazardous Substances: CAS# 7087-68-5 does not have a final RQ
SARA Section 302: CAS# 7087-68-5 does not have a TPQ
SARA Codes: CAS# 7087-68-5 – immediate, fire
Section 313: Diisopropylethylamine (CAS# 7087-68-5) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.
Clean Air Act: CAS# 7087-68-5 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.
Clean Water Act: CAS# 7087-68-5 is listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.
OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 110-54-3 is on the following state right-to-know lists: New Jersey and Pennsylvania
California Prop 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Canada:

DSL/NDSL: CAS# 7087-68-5 is listed on Canada's DSL list.
WHMIS: This product has a WHMIS classification of B2, E. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

16. OTHER INFORMATION

Originally Prepared: 6/18/2008
Last Revised: 05/04/2018 – Updated GHS pictograms, precautionary statements, hazard statements, toxicology data, and transportation information.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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