

MATERIAL SAFETY DATA SHEET



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N, N-DIISOPROPYLETHYLAMINE

MSDS No. M0111

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: n, n-Diisopropylethylamine

Product Catalog Number(s): DR0447

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

Molecular Formula: (CH₃)₂CHNHCH(CH₃)₂

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

2. COMPOSITION AND INFORMATION ON INGREDIENTS

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

3. HAZARDS IDENTIFICATION

DANGER! CAUSES BURNS TO SKIN, EYES, DIGESTIVE SYSTEM, AND RESPIRATORY TRACT. HIGHLY FLAMMABLE LIQUID AND VAPOR. TARGET ORGANS: EYES, SKIN, AND MUCOUS MEMBRANES.



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.

HMIS Rating:

Health – 3* 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.

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: 6° C (42.8° F)

Flammable Limits: Lower Limit – 0.7 vol %, Upper Limit – 6.3 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 - 3, 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 or appropriate eye 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: Amine- like odor

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

Molecular Weight: 129.24

pH: Not available.

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

Animal Toxicity:

LD50 (oral, rat): >200-500 mg/kg (Merck SDS dated 14.06.2004);

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:

Daphnia: 74.3 mg/l; 48H; EC50 No data available;

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: Amines, flammable, corrosive, n.o.s.

Hazard Class: 3 (8)

UN Number: UN2733

Packing Group: II

Canada TDG

Proper Shipping Name: Amines, flammable, corrosive, n.o.s.

Hazard Class: 3 (8)

UN Number: UN2733

Packing Group: II

Additional Information: Flashpoint 10 C

International (Water, I.M.O.)

Proper Shipping Name: Amines, flammable, corrosive, n.o.s.

Hazard Class: 3 (8)

UN Number: UN2733

Packing Group: II

International (Air, I.C.A.O.)

Proper Shipping Name: Amines, flammable, corrosive, n.o.s.

Hazard Class: 3 (8)

UN Number: UN2733

Packing Group: II

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 TPO

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# 7087-68-5 is not on any state right-to-know lists. California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDL: 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.

DSCL (EEC):

Hazard Symbols: F, C

Risk Phrases: R11 – Highly Flammable; R22 – Harmful if swallowed; R34 – Causes burns; R52 – harmful to aquatic organisms.

Safety Phrases: S16 – Keep away from sources of ignition-no smoking; S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S36/37/39: Wear suitable protective clothing, gloves, and

eye/face protection; S45 – In case of accident, or if you feel unwell, seek medical advice immediately (show label where possible); S61 – Avoid release to the environment.
WGK (Water Danger/protection): CAS# 7087-68-5: 2

16. OTHER INFORMATION

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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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