

Di-N-Propylamine



Version
1.4
PRD

Revision Date:
08/30/2019

SDS Number:
150000103693
SDSUS / Z8 / 0001

Date of last issue: 08/29/2019
Date of first issue: 09/06/2016

SECTION 1. IDENTIFICATION

Product name : Di-N-Propylamine
Product code : 51168-00, P5116812, N5116811, P5116801, N5116810

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company
Address : 200 South Wilcox Drive
Kingsport TN 37660-5280
Telephone : (423) 229-2000
Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Flammable liquids : Category 2
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 3
Acute toxicity (Dermal) : Category 3
Skin corrosion : Category 1A
Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H311 + H331 Toxic in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces.

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No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance

Components

Chemical name	CAS-No.	Concentration (% w/w)
dipropylamine	142-84-7	> 99

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SECTION 4. FIRST AID MEASURES

- | | | |
|---|---|--|
| General advice | : | Show this material safety data sheet to the doctor in attendance.
Call a physician immediately. |
| If inhaled | : | Move to fresh air.
If symptoms persist, call a physician. |
| In case of skin contact | : | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Wash off immediately with plenty of water for at least 15 minutes.
Wash contaminated clothing before re-use. |
| In case of eye contact | : | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses, if present and easy to do. Continue rinsing. |
| If swallowed | : | Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | Health injuries may be delayed.
superficial burning sensation
Stomach/intestinal disorders
Harmful if swallowed.
Toxic in contact with skin or if inhaled.
Causes serious eye damage.
Causes severe burns. |
| Notes to physician | : | Treat symptomatically. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|---------------------------------------|---|---|
| Suitable extinguishing media | : | Water spray
Carbon dioxide (CO ₂)
Dry chemical
Alcohol-resistant foam |
| Unsuitable extinguishing media | : | Do NOT use water jet. |
| Specific hazards during fire fighting | : | Flash back possible over considerable distance. |
| Hazardous combustion products | : | Carbon monoxide
Nitrogen oxides (NO _x) |
| Further information | : | Prevent fire extinguishing water from contaminating surface water or the ground water system.
Do not allow run-off from fire fighting to enter drains or water |

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courses.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Eliminate all ignition sources if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Prevent further leakage or spillage if safe to do so.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep product and empty container away from heat and sources of ignition.

Advice on safe handling : Avoid contact with skin, eyes and clothing. Do not taste or swallow. Ensure adequate ventilation, especially in confined areas. Do not breathe vapors or spray mist. Wash thoroughly after handling.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where

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exposure limits have not been established), an approved respirator must be worn.

Hand protection

Remarks : Rubber gloves Neoprene gloves The exact break through time can be obtained from the protective glove producer and this has to be observed.

Eye protection : Safety glasses with side-shields
Face-shield

Skin and body protection : Complete suit protecting against chemicals

Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : ammoniacal

Odor Threshold : not determined

pH : alkaline

Melting point/freezing point : -40 °F / -40 °C

Boiling point/boiling range : 228.7 °F / 109.3 °C

Flash point : 45 °F / 7 °C

Evaporation rate : not determined

Upper explosion limit / Upper flammability limit : 9.3 %(V)

Lower explosion limit / Lower flammability limit : 1.8 %(V)

Vapor pressure : 26.8 hPa (77 °F / 25 °C)

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Relative vapor density	: 3.48 (Air = 1.0)
Relative density	: 0.74
Density	: 0.74 g/cm ³ (68 °F / 20 °C)
Solubility(ies)	
Water solubility	: 48.4 g/l (68 °F / 20 °C)
Partition coefficient: n-octanol/water	: log Pow: 1.33
Autoignition temperature	: 500 °F / 260 °C
Decomposition temperature	: not determined
Viscosity	
Viscosity, dynamic	: 0.517 mPa.s (77 °F / 25 °C)
Viscosity, kinematic	: not determined
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: 101.19 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: None reasonably foreseeable.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous decomposition products formed under fire conditions.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Strong acids and oxidizing agents Halogenated compounds Zinc Aluminum Copper
Hazardous decomposition products	: Carbon monoxide Carbon dioxide (CO ₂) Nitrogen oxides (NO _x) Ammonia

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SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

Product:

Acute oral toxicity : LD50 Oral (Rat): 495 mg/kg

Remarks: Harmful if swallowed.

Acute inhalation toxicity : LC50 (Rat): 4.4 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Remarks: Toxic by inhalation.

Acute dermal toxicity : LD50 Dermal (Rabbit): 925 mg/kg

Remarks: Toxic in contact with skin.

Skin corrosion/irritation

Causes severe burns.

Product:

Result : Corrosive

Remarks : Causes severe skin burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Result : Corrosive

Remarks : Causes serious eye damage.

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Not classified based on available information.

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Product:

Germ cell mutagenicity - Assessment : Not mutagenic in Ames Test.

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Repeated dose toxicity**Product:**

Species : Rat
NOAEL : 300 mg/kg bw/day
Application Route : Oral

Aspiration toxicity

Not classified based on available information.

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Product:

No aspiration toxicity classification

Further information**Product:**

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 25 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 73.39 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 11.8 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC10 (Bacteria): 146.8 mg/l

Persistence and degradability**Product:**

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil**Product:**

Distribution among environmental compartments : Koc: 155

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No. : UN 2383
Proper shipping name : Dipropylamine
Class : 3
Subsidiary risk : 8
Packing group : II
Labels : Class 3 - Flammable liquids, Class 8 - Corrosive substances
Packing instruction (cargo aircraft) : 363
Packing instruction (passenger aircraft) : 352

IMDG-Code

UN number : UN 2383
Proper shipping name : DIPROPYLAMINE

Class : 3
Subsidiary risk : 8
Packing group : II
Labels : 3 (8)
EmS Code : F-E, S-C
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number : UN 2383
Proper shipping name : Dipropylamine

Class : 3
Subsidiary risk : 8
Packing group : II
Labels : Class 3 - Flammable liquids, Class 8 - Corrosive substances
ERG Code : 132
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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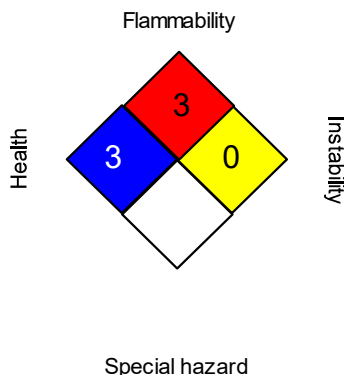
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	3
FLAMMABILITY		3
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance

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Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and re-release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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