

Product Name	Dibutyl Amine N
Part Number	RXSOL-19-1293-050

Company Details:

RX MARINE INTERNATIONAL
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Chemical Name	CAS	EC number	Weight	Formula	Dibutylamine
111-92-2 203-921-8	C8H19N				

Signal Word	Danger	Hazard Statements	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H330 Fatal if inhaled.	Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.	Supplemental Hazard Statements	None. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

General advice	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.	If inhaled	After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
Eye Contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.	Swallowed	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Skin Contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.	Inhalation	Remove patient to fresh air, keep warm and at rest and get medical assistance in necessary.
Ingestion	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.	Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available		

Flammability	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.			Flash
Point	Dry powder Dry sand	Suitable extinguishing media	Carbon dioxide (CO2) Foam Dry powder	Unsuitable extinguishing
media	For this substance/mixture no limitations of extinguishing agents are given.			Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx) Combustible. Fire may cause evolution of: Hydrogen cyanide (hydrocyanic acid), nitrous gases, nitrogen oxides Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

Further information Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Hazardous combustion products Fire may cause the evolution of Sulphur oxides, nitrogen oxides.

Advice for firefighters Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Protective Equipment Use personal protective equipment.

Specific Hazards Arising from the Chemical Oxides of phosphorus Sodium oxides

Not combustible. Fire may cause evolution of: Oxides of phosphorus Ambient fire may liberate hazardous vapours.

Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Spillage Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Enviromental Precaution Do not let product enter drains. Risk of explosion. Methods and materials for containment and cleaning Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Incompatible materials Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills.

Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

Precautions for safe handling Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature see product label.

Storage class Storage class (TRGS 510): 3: Flammable liquids

Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Advice on general occupational hygiene Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.

Requirements for storage Keep in cool and store under shade.

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.

Control parameters Ingredients with workplace control parameters Contains no substances with occupational exposure limit values.

Engineering Control Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Body Protection Flame retardant antistatic protective clothing.

Skin protection This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,4 mm Break through time: 480 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Chloroprene Minimum layer thickness: 0,65 mm Break through time: 30 min

Material tested: KCL 720 Camapren® Respiratory protection Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
 The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Other Protection Measure Handle in accordance with good industrial hygiene and safety practice. Control of environmental exposure Do not let product enter drains. Risk of explosion.

Physical state	Liquid	Colour	Colorless	Odour	Ammoniacal	Odor Threshold	No data available
pH	11,1 at 1 g/l at 20 °C	Melting Point	60 - -59 °C at 1.013 hPa	Boiling Point	160 °C at 1.013,25 hPa		
Flash Point	40,5 °C - closed cup	Evaporation Rate	Not Applicable	Flammability (solid, gas)	No data available		
Explosive limits	No Data Available	Upper/lower flammability or explosive limits	6,8 %(V) / 0,6 %(V)	Autoignition			
temperature	255 °C at 1.013,25 hPa	Decomposition temperature	No data available	Vapour pressure	2,26 hPa at 20,3 °C		
Density	0,76 g/cm3 at 22,9 °C - DIN 51757	Relative Density					
1,1 at 20 °C	Relative vapor density	4,46 - (Air = 1.0)	Freezing point	No data available			
Viscosity dynamic	0,64 mPa.s at 40 °C 0,85 mPa.s at 20 °C	Partition coefficient	log Pow: 2,1 at 23 °C	Explosive			
properties	No data available	Solubility	3,8 g/l at 20 °C - OECD	Ignition temperature	No information available.		
Particle characteristics	No data available						

Reactivity	Vapor/air-mixtures are explosive at intense warming.	Stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines! Exothermic reaction with: acids anhydrides Strong oxidizing agents Violent reactions possible with: Alcohols glycol ether Ketones Aldehydes Esters Nitriles phenols	Conditions to avoid	Heating.
Nonferrous metals, Light metals, Copper, Copper alloys, Tin	Hazardous decomposition products	In the event of fire: see section 5	

Acute toxicity LD50 Oral - Rat - male - 550 mg/kg Remarks: (ECHA) LC50 Inhalation - Rat - male and female - 4 h - 1,15 mg/l - vapor (OECD Test Guideline 403) LD50 Dermal - Rabbit - male - 768 mg/kg Remarks: (ECHA) Skin corrosion/irritation Skin - Rabbit Result: Causes severe burns. - 3 min - 1 h (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes - Rabbit Result: Corrosive (OECD Test Guideline 405) Remarks: Causes serious eye damage. Respiratory or skin sensitization Buehler Test - Guinea pig Result: Does not cause skin sensitization. (US-EPA) Toxic Effects on Human May cause damage to the following organs: upper respiratory tract. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer), of ingestion, of inhalation (lung irritant, lung sensitizer). Carcinogenicity No data available Germ cell mutagenicity Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 475 Result: negative Reproductive toxicity No data available

Specific target organ toxicity - single exposure No data available Special Remarks on other Toxi Effects on Humans Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism. Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Bioaccumulative potential	No data available	Persistence and degradability	Biodegradability aerobic - Exposure time
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28 d Result: 95 % - Readily biodegradable. (OECD Test Guideline 301C) Toxicity to fish Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 5,5 mg/l - 96 h Remarks: (in soft water) (ECHA) static test LC50 - Oncorhynchus mykiss (rainbow trout) - 37 mg/l - 96 h Remarks: (in hard water) (ECHA) Toxicity to daphnia and other aquatic invertebrates Semi-static test LC50 - Ceriodaphnia dubia (water flea) - 8,4 mg/l - 48 h (US-EPA) Toxicity to algae Static test EC50 - Desmodesmus subspicatus (green algae) - 16,91 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria EC50 - Pseudomonas putida - 196 mg/l - 17 h Remarks: (IUCLID) Mobility in soil No Information available Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Other adverse effects No data available

Disposal methods The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging Dispose of as unused product. Waste treatment Method See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

UN number	ADR/RID: 2248	IMDG: 1738 2248	IATA: 2248	UN proper shipping name	ADR/RID:
DI-n-BUTYLAMINE	IMDG:DI-n-BUTYLAMINE	IATA:DI-n-BUTYLAMINE		Transport hazard class(es)	ADR/RID: 8 (3)
IMDG: 8 (3)	IATA: 8 (3)	Packaging group	ADR/RID: II	IMDG: II	IATA: II
hazards	ADR/RID: NO	IMDG: NO	IATA: NO	Further information	No data available

Inventory status Components are on the following inventories: Polymaleic acid: - US TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Philippine PICCS and Chinese Xi irritant R 36/38 Irritant to eyes & skin R 41 Risk of serious damage to eyes S24/25 Avoid contact with skin and eyes S26/28 In case of contact eyes & skin, rinse with plenty water and seek medical advice Section 312/313: Not listed. Not listed under California proposition 65. Safety, health and environmental regulations/legislation specific for the substance or mixture This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. National legislation Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ACUTE TOXIC : FLAMMABLE LIQUIDS Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. Chemical Safety Assessment For this product a chemical safety assessment was not carried out

Other Information

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