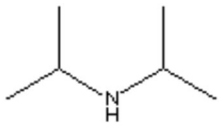
Diisopropylamine

- N-(1-Methylethyl)-2-propanamine
- bis(Isopropyl)amine
- DIPA

Formula $[(CH_3)_2CH]_2NH$

Structure



Description A clear colorless liquid with an ammonia-like odor.

Uses Catalyst, intermediate.

Registry Numbers.

CAS	108-18-9
EINECS	203-558-5
RTECS	IM4025000
Std. Transport No.	4909148
UN (DOT)	1158
Merck Index	3240

108-18-9 is listed on the TSCA.

Chemical and physical properties.

Formula mass	101.19
Melting point, °C	-61.1
Boiling point, °C	84
Vapor pressure, mm_{Hg}	79
Vapor density (air=1)	3.5
Specific gravity/density	0.717
Solubility in water	Miscible

Viscosity	0.40 cp @ 25°C
Refractive index	1.3924 (20°C)
Odor threshold	1.8 ppm
Partition coefficient, pK_{ow}	1.4
Equilibrium constant	pK_a: 11.07 (in water) at 25 °C
Heat of combustion	-11000 cal/g
Heat of vaporization	8.265 kcal/mole @ 25°C
Critical temperature	249.0 °C
Critical pressure	3 atm

Hazards and protection.

Storage	Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.
Handling	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Protection	Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators	Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
Small spills or leaks	Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Remove all sources of ignition. A vapor suppressing foam may be used to reduce vapors.
Stability	Stable under normal temperatures and pressures.
Incompatibilities	Acids, oxidizing agents.
Hazardous Decomposition	Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

Other hazards	May react violently with water.

Fire related information.

NFPA	**Health**	3
	Flammability	3
	Reactivity	0
	Special	-

Flash Point, °C	-7
Autoignition temp., °C	316
Upper exp. limit, %	7.1
Lower exp. limit, %	0.8
Fire fighting	Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Extremely flammable liquid. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Extinguishing media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Do NOT get water inside containers. For large fires, use water spray, fog or alcohol-resistant foam.
Fire potential	Very flammable. Combustion probable.
Hazards	Vapors are heavier than air and may travel to a source of ignition and flash back.
Combustion products	Toxic oxides of nitrogen may form in fires.

Health related information.

Exposure limit(s)	TLV: 5 ppm; 21 mg/m^3 (skin) (ACGIH 1996). OSHA PEL: TWA 5 ppm (20 mg/m^3) skin NIOSH REL: TWA 5 ppm (20 mg/m^3) skin NIOSH IDLH: 200 ppm
Exposure effects	

	Chronic inhalation may cause effects similar to those of acute inhalation.
Ingestion	May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.
Inhalation	Harmful if inhaled. Causes respiratory tract irritation. May cause burns to the respiratory tract. Vapors may cause dizziness or suffocation.
Skin	Prolonged and/or repeated contact may cause irritation and/or dermatitis. Causes severe skin irritation and burns.
Eyes	Exposure to concentrations between 25 and 50 ppm may cause disturbances of vision described as "haziness". Causes severe eye irritation and possible burns. May cause temporary visual impairment.

First aid

Ingestion	Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation	Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Skin	Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
Eyes	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

Shipping information.

DOT (UN) Transportation Information

UN number	1158
Response guide	132
Hazard class	3
Packing Group	II

USCG Bulk Shipping

CHRIS Code	DIA
USCG regulated	Y

Flammable/Combustable code	C
Compatibility group	7: Aliphatic amines
Exemptions part 150	N
Barge hull type	2
Ship Type	2
IMO chemical code	17
IMO pollution code	C
Grades of purity	commercial, 100%
Storage temperature	Ambient
Vapor control	Open (flame arrester)
Atmosphere	No requirement