

## SAFETY DATA SHEET

### N-PROPYL BROMIDE

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

<b>1.1 Product identifier:</b>	
<b>CAS Number:</b>	106-94-5
<b>EC number:</b>	203-445-0
<b>1.2 SYNONYMS:</b>	<ul style="list-style-type: none"><li>• 1-bromopropane</li><li>• Propyl bromide</li></ul>

#### SECTION 2: Hazards identification:

<b>2.1 Classification of the substance or mixture:</b>	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
<b>2.2 Label elements:</b>	Labelling according to Regulation (EC) No 1272/2008 Flammable liquids, (Category 3) Skin irritation, (Category 2) Eye irritation, (Category 2) Carcinogenicity, (Category 2) Reproductive toxicity, (Category 1B) Specific target organ toxicity - single exposure, Central nervous system (Category 3) Specific target organ toxicity - single exposure, Respiratory system (Category 3) Specific target organ toxicity - repeated exposure, Liver, Central nervous system (Category 2), Hazardous to the ozone layer, (Category 1) Long-term (chronic) aquatic hazard, (Category 1)
<b>Hazard Pictograms:</b>	
<b>Signal Word:</b>	Danger
<b>Hazard statements:</b>	<b>H226:</b> Flammable liquid and vapour. <b>H315:</b> Causes skin irritation. <b>H319:</b> Causes serious eye irritation.

	<p><b>H335:</b> May cause respiratory irritation.</p> <p><b>H336:</b> May cause drowsiness or dizziness.</p> <p><b>H351:</b> Suspected of causing cancer.</p> <p><b>H360FD:</b> May damage fertility. May damage the unborn child.</p> <p><b>H373:</b> May cause damage to organs (Liver, Central nervous system) through prolonged or repeated exposure if inhaled.</p> <p><b>H412:</b> Harmful to aquatic life with long lasting effects.</p> <p><b>H420:</b> Harms public health and the environment by destroying ozone in the upper atmosphere.</p>
<p><b>Precautionary Statements:</b></p>	<p><b>P261:</b> Avoid breathing dust.</p> <p><b>P264:</b> Wash skin thoroughly after handling.</p> <p><b>P280:</b> Wear protective gloves/protective clothing/eye protection/face protection.</p> <p><b>P273:</b> Avoid release to the environment.</p> <p><b>P303+P361+P353:</b> IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p><b>P305+P351+P338:</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.</p> <p><b>P301+P312:</b> IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.</p> <p><b>P404:</b> Store in a closed container.</p> <p><b>P501:</b> Dispose of contents/ container to an approved waste disposal plant.</p>
<p><b>2.3 Other hazards:</b></p>	
<p><b>Inhalation:</b></p>	<p>can cause headache, dizziness, nausea, respiratory irritation, and prolonged exposure may lead to</p>

	nervous system damage or organ toxicity.
<b>Ingestion:</b>	may cause abdominal pain, nausea, vomiting, diarrhea, and in severe cases, central nervous system depression, liver or kidney damage.
<b>Skin Contact:</b>	can cause irritation, redness, dryness, and prolonged or repeated exposure may lead to dermatitis or systemic absorption causing nervous system effects.
<b>Eye contact:</b>	can cause irritation, redness, tearing, and pain, and prolonged exposure may damage the cornea.
<b>Chronic Exposure:</b>	can lead to neurological effects (such as numbness, tingling, and weakness), reproductive toxicity, liver and kidney damage, and skin or respiratory sensitization.
<b>Aggravation of pre-existing conditions:</b>	may aggravate pre-existing respiratory, liver, kidney, or neurological conditions, and can worsen skin disorders or sensitivity.

### SECTION 3: Composition/information on ingredients

<b>3.1 Chemical characterisation:</b>	Substances
<b>CAS No:</b>	Description: 106-94-5 N-PROPYL BROMIDE
<b>Identification number(s):</b>	EC number: 203-445-0

### SECTION 4: First aid measures

<b>4.1 Description of first aid measures</b>	
<b>General information:</b>	
<b>After inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>After skin contact:</b>	Remove contaminated clothing immediately. Wash with plenty of water. Consult a physician.

<b>After eye contact:</b>	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
<b>After swallowing:</b>	Rinse mouth with water. Immediately after ingestion. If conscious, make victim drink two glasses at most immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
<b>4.2 Most important symptoms and effects, both acute and delayed:</b>	Acute and delayed exposure can cause headache, dizziness, nausea, respiratory and eye irritation, skin redness, and with prolonged exposure, neurological impairment, liver and kidney damage, and reproductive toxicity.
<b>4.3 Indication of any immediate medical attention and special treatment needed:</b>	Treat symptomatically.

## SECTION 5: Firefighting measures

<b>5.1 Extinguishing media:</b>	Water, Carbon dioxide dry chemical, Alcohol-resistant foam.
<b>5.2 Special hazards arising from the substance or mixture:</b>	Carbon oxides, hydrogen bromide.
<b>5.3 Advice for firefighters:</b>	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
<b>5.4 further information:</b>	no data available

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations.
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	Avoid dust accumulation. Seek medical attention.
<b>6.2 Environmental precautions:</b>	Do not enter this chemical into drains.
<b>6.3 Methods and material for containment and cleaning up:</b>	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling:</b>	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
<b>7.2 Conditions for safe storage, including any incompatibilities:</b>	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
<b>Requirements to be met by storerooms and receptacles:</b>	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
<b>7.3 Specific end uses:</b>	no data available

## SECTION 8: Exposure controls/personal protection

<b>8.1 Control parameters</b>	
<b>Additional information about design of technical facilities:</b>	A system of local and general exhaust is recommended.
<b>8.2 Exposure controls</b>	
<b>Appropriate engineering controls</b>	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>Personal protective equipment:</b>	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
<b>General protective and hygienic measures:</b>	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	<b>Respiratory protection:</b> Required.
<b>Protection of hands:</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	<b>Eye protection:</b> Required
<b>Protection of Body:</b>	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

## SECTION 9: Physical and chemical properties

<b>9.1 Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Appearance: Form:</b>	Volatile Liquid
<b>Colour:</b>	Colorless
<b>Odour:</b>	Sweet, ether-like
<b>pH-value:</b>	No data available
<b>Melting point/Melting range:</b>	-119°C
<b>Boiling point/Boiling range:</b>	71°C
<b>Flammability (solid, gaseous):</b>	Highly Flammable

<b>Ignition temperature:</b>	460°C
<b>Decomposition temperature:</b>	No data available
<b>Self-igniting:</b>	None
<b>Flash point:</b>	12°C
<b>Danger of explosion:</b>	Yes
<b>Explosion limits: Lower:</b>	3.8%
<b>Explosion limits: Upper:</b>	13%
<b>Vapour pressure:</b>	14 kPa at 20°C
<b>Density at 20 °C:</b>	1.33 g/cm <sup>3</sup>
<b>Relative density:</b>	1.33
<b>Vapour density:</b>	4.4
<b>Evaporation rate:</b>	5
<b>Solubility in / Miscibility with- water at 20 °C:</b>	Slightly Soluble
<b>Partition coefficient:(n- octanol/water)</b>	2.3
<b>Viscosity:</b>	0.43 mPa.s at 25°C

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No data available
<b>10.2 Chemical stability</b>	This chemical is stable under storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	Can undergo violent reactions with strong oxidizing agents.
<b>10.4 Conditions to avoid</b>	Heat, open flames, sparks, moisture.
<b>10.5 Incompatible materials</b>	Strong oxidizing agents, strong bases, alkali metals and amines.
<b>10.6 Hazardous decomposition products</b>	Carbon oxides, hydrogen bromide.

## SECTION 11: Toxicological information

<b>11.1 Information on toxicological effects</b>	
<b>Acute Toxicity:</b>	<b>LD50</b> (Oral, Rat): no data available <b>LD50</b> (Dermal, Rabbit): no data available <b>LC50</b> (Inhalation Rat): no data available
<b>Skin corrosion/Irritation:</b>	Causes skin irritation
<b>Serious eye damage/irritation:</b>	Causes eye irritation

<b>Respiratory damage/irritation:</b>	No data available
<b>Ingestion:</b>	No data available
<b>Germ cell mutagenicity:</b>	No data available
<b>Carcinogenicity:</b>	Suspected of causing cancer
<b>Reproductive toxicity:</b>	May damage fertility
<b>Specific target organ toxicity - single exposure:</b>	May cause drowsiness or dizziness, may cause respiratory irritation
<b>Specific target organ toxicity - repeated exposure:</b>	May cause damage to organs through prolonged exposure
<b>Aspiration hazard:</b>	No data available
<b>Signs and Symptoms of Exposure:</b>	Refer section 2.3
<b>11.2 Additional toxicological information</b>	
<b>Biodegradability:</b>	Low biodegradable

## SECTION 12: Ecological information

<b>12.1 Toxicity Aquatic toxicity:</b>	LC50(fish): no data available EC50(daphnia): no data available ErC50(algae): no data available
<b>12.2 Persistence and degradability:</b>	Low bioderadable
<b>12.3 Bioaccumulative potential:</b>	Moderate bioaccumulative
<b>12.4 Mobility in soil:</b>	Moderate mobility
<b>12.5 Other adverse effects:</b>	No data available

## SECTION 13: Disposal considerations

<b>13.1 Waste treatment methods</b>	
<b>Uncleaned packaging Recommendation:</b>	dispose of in accordance with local hazardous waste regulations
<b>Recommended cleansing agents:</b>	Sand, water with mild detergents.

## SECTION 14: Transport information

<b>14.1 UN-Number · ADR, ADN, IMDG, IATA:</b>	2344
<b>14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:</b>	1-BROMOPROPANE
<b>14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :</b>	3
<b>14.4 Packing group · ADR, IMDG, IATA:</b>	2
<b>14.5 Environmental hazards:</b>	None

<b>14.6 Special precautions for user:</b>	Handle responsibly.
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## SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b> <b>Directive 2012/18/EU</b>	Directive 2012/18/EU, under that this substance is classified in listed substances as flammable liquid.
<b>Named dangerous substances:</b>	This substance is not listed in the annex 1 to the directive.
<b>15.2 Chemical safety assessment:</b>	Chemical assessment has not been carried out.

## SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and limitations of our knowledge, this document is only for reference. Users should make their independent judgment suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.