



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: 1-PENTANOL (n-AMYL ALCOHOL)

CAS Number: 71-41-0

1. IDENTIFICATION:

Product Code : 90638, 99002, 98195

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

Address : W-279, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE,
NAVI MUMBAI - 400 701, MAHARASHTRA, INDIA.

E-mail : sales@adventchembio.com

WEBSITE : www.adventchembio.com

Company Phone Number : +91 77770 84837

2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Flammable liquids : Category 3

Health hazards


Acute toxicity, Inhalation : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

**Specific target organ
toxicity - single exposure,
Respiratory system** : Category 3

Labels elements :

Hazard symbol : 

Signal word : Danger

Hazard statement : Highly flammable liquid and vapor.
Causes skin irritation.
Causes serious eye damage.
Harmful if inhaled.
May cause respiratory irritation.

Precautionary statement

Prevention : Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.



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Response	:	Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
		IF EXPOSED or concerned: Get medical advice/ attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a poison center or doctor/physician.
Storage	:	Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Disposal	:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	:	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.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
1-Pentanol (n-Amyl Alcohol)	71-41-0	NLT 98.0%	Yes

4. FIRST AID MEASURES:

General information	:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion	:	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
Inhalation	:	Get medical attention if symptoms persist.
Skin contact	:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Eye contact	:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	:	The most important known symptoms and effects are described in the labelling.
Indication of immediate medical attention and special treatment needed	:	No data available.

5. FIRE FIGHTING MEASURES:

General information	:	Flammable liquid and vapor.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Carbon dioxide (CO ₂), Foam, Dry powder
Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards arising from the chemical	Nature of decomposition products not known. Combustible. : 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.

Special protective equipment and precautions for firefighters

Special firefighting procedures	: Fight fire from a protected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters	: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures	: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up	: Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures	: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
Environmental precautions	: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks.



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8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Appropriate engineering****controls** : No data available**Ingredients with workplace control parameters****Derived No Effect Level (DNEL)**

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, longterm	inhalation	Systemic effects	73,16 mg/m3
Worker DNEL, longterm	inhalation	Local effects	73,16 mg/m3
Worker DNEL, acute	inhalation	Systemic effects	292 mg/m3
Worker DNEL, acute	inhalation	Local effects	292 mg/m3
Consumer DNEL, longterm	inhalation	Systemic effects	15,4 mg/m3
Consumer DNEL, longterm	inhalation	Local effects	15,4 mg/m3
Consumer DNEL, longterm	inhalation	Systemic effects	256,4 mg/m3
Consumer DNEL, longterm	inhalation	Local effects	256,4 mg/m3
Consumer DNEL, longterm	oral	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,013 mg/l
Sea water	0,0013 mg/l
Aquatic intermittent release	0,13 mg/l
Fresh water sediment	0,055 mg/kg
Sea sediment	0,0055 mg/kg
Soil	2,5 mg/kg
Sewage treatment plant	37 mg/l

Individual protection measures, such as personal protective equipment

General information	: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection	: Wear safety glasses with side shields (or goggles).
Hand protection	: Chemical resistant gloves.
Other	: Wear suitable protective clothing.
Respiratory protection	: Required when vapours/aerosols are generated. Recommended Filter type: Filter type ABEK Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.
Hygiene measures	: Avoid contact with eyes, skin, and clothing.



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9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	: Clear, colorless liquid
Odor	: No data available
Solubility	: Miscible in water.
Formula	: $\text{CH}_3(\text{CH}_2)_3\text{CH}_2\text{OH}$
Molecular Weight	: 88.15 g/mol
Density	: 0.815 g/cm ³
pH	: 7
% Volatiles by volume @ 21C (70F)	: No data available
Boiling Point	: 138°C
Melting Point	: -78.6°C
Flash Point	: 49 °C
Vapor Density (Air=1)	: No data available
Vapor Pressure (mm Hg)	: 2.04 @ 20°C
Evaporation Rate (BuAc=1)	: No data available

10. STABILITY AND REACTIVITY:

Reactivity	: Vapor/air-mixtures are explosive at intense warming.
Chemical stability	: Material is stable under ambient conditions..
Possibility of hazardous reactions	Risk of ignition or formation of inflammable gases or vapours with: Fluorine, Oxygen : Violent reactions possible with: Oxidizing agents, Alkali metals, Alkaline earth metals, halogens, Acid chlorides, Isocyanates, lithium silicide, acids
Conditions to avoid	: Heating.
Incompatible materials	: Rubber, various plastics
Hazardous decomposition products	: In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product	: LD 50 (Rat): 3.645 mg/kg
Dermal Product	: LD 50 (Rabbit): 2.292 mg/kg



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Inhalation Product	: 4 h - 11,1 mg/l - vapor
Repeated dose toxicity Product	: No data available.
Skin corrosion/irritation Product	: Irritation
Serious eye damage/eye irritation Product	: Causes serious eye damage
Respiratory or skin sensitization Product	: Maximization Test - Guinea pig Result: negative
Carcinogenicity Product	: No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available.
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	Test Type: Micronucleus test Test system: Chinese hamster fibroblasts Metabolic activation: with and without metabolic activation Result: negative : Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Result: negative
Reproductive toxicity Product	: No data available.
Specific target organ toxicity - single exposure Product	: May cause respiratory irritation. - Respiratory system
Specific target organ toxicity - repeated exposure Product	: No data available.
Aspiration hazard Product	: No data available.
Other effects	: No data available.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment****Fish Product**

: static test LC50 - Danio rerio (zebra fish) - 530 mg/l - 96 h



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Toxicity to daphnia and other aquatic invertebrates : static test EC50 - Daphnia magna (Water flea) - 341,21 mg/l - 48 h
Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates Product : No data available.

Toxicity to Aquatic Plants Product: : No data available.

Persistence and degradability

Biodegradation Product : Readily biodegradable.

BOD/COD ratio Product : BOD - 1.278 mg/g
: COD - 1.814 mg/g
Ratio BOD/ThBOD - 47 %

Bioaccumulative potential

Bioconcentration factor (BCF) Product : No data available.

Partition coefficient n-octanol / water (log Kow) Product : No data available.

Mobility in soil : No data available.

Other adverse effects : No data available.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 1105	1-Pentanol (n-Amyl Alcohol)	3	III	No
IMDG	UN 1105	1-Pentanol (n-Amyl Alcohol)	3	III	No
IATA	UN 1105	1-Pentanol (n-Amyl Alcohol)	3	III	No

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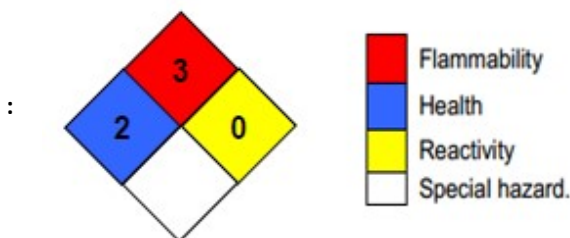
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15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. OTHER INFORMATION:**NFPA Hazard ID**

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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