

## SAFETY DATA SHEET

Creation Date 26-September-2009

Revision Date 29-March-2024

Revision Number 4

### 1. Identification

**Product Name** 1-Pentanol

**Cat No. :** L05057

**CAS-No** 71-41-0  
**Synonyms** Pentyl alcohol; n-Amyl alcohol

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

##### **WHMIS 2015 Classification**

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<b>Flammable liquids</b>	Category 3
<b>Acute Inhalation Toxicity</b>	Category 4
<b>Skin Corrosion/Irritation</b>	Category 2
<b>Serious Eye Damage/Eye Irritation</b>	Category 2
<b>Specific target organ toxicity (single exposure)</b>	Category 3
Target Organs - Respiratory system.	

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

Flammable liquid and vapor

Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation

**Precautionary Statements****Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection  
Use non-sparking tools  
Take action to prevent static discharges

**Response**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Call a POISON CENTER/ doctor if you feel unwell  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
Take off contaminated clothing and wash it before reuse

**Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Stench

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
1-Pentanol	71-41-0	>95

### 4. First-aid measures

**General Advice**

If symptoms persist, call a physician.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms/effects**

None reasonably foreseeable. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Notes to Physician**

Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Unsuitable Extinguishing Media**

No information available

**Flash Point**

49 °C / 120.2 °F

**Method -**

No information available

**Autoignition Temperature**

300 °C / 572 °F

**Explosion Limits****Upper**

10.5 Vol%

**Lower**

1.3 Vol%

**Sensitivity to Mechanical Impact**

No information available

**Sensitivity to Static Discharge**

No information available

**Specific Hazards Arising from the Chemical**

Flammable. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
2

**Flammability**  
2

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions**

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Should not be released into the environment.

**Methods for Containment and Clean Up**

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

**Storage.**

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing agents. Metals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Engineering Measures

Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### **Eye Protection** **Hand Protection**

Goggles  
Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Nitrile rubber Neoprene Natural rubber PVC	See manufacturers recommendations	-	Splash protection only

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

No information available.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Stench
<b>Odor Threshold</b>	No information available
<b>pH</b>	7 - 25 g/l water
<b>Melting Point/Range</b>	-78 °C / -108.4 °F
<b>Boiling Point/Range</b>	137 - 139 °C / 278.6 - 282.2 °F
<b>Flash Point</b>	49 °C / 120.2 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable

**Flammability or explosive limits**

Upper	10.5 Vol%
Lower	1.3 Vol%
Vapor Pressure	2.6 mbar
Vapor Density	3.0 (Air = 1.0)
Specific Gravity	0.811
Solubility	22 g/L water (22°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	300 °C / 572 °F
Decomposition Temperature	No information available
Viscosity	4 mPa s at 20 °C
Molecular Formula	C <sub>5</sub> H <sub>12</sub> O
Molecular Weight	88.15

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Hygroscopic.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Incompatible products. Exposure to moist air or water.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

**Acute Toxicity****Product Information****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1-Pentanol	>2000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	Not listed

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Irritation</b>	Irritating to eyes, respiratory system and skin
<b>Sensitization</b>	No information available
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
1-Pentanol	71-41-0	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1-Pentanol	Not listed	LC50: 437 - 511 mg/L, 96h flow-through (Pimephales promelas) LC50: = 530 mg/L, 96h static (Brachydanio rerio) LC50: = 650 mg/L, 96h static (Lepomis macrochirus) LC50: 370 - 490 mg/L, 96h static (Oncorhynchus mykiss)	Not listed	EC50: = 341 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
1-Pentanol	1.4

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN1105  
 Proper Shipping Name PENTANOLS  
 Hazard Class 3  
 Packing Group III

### TDG

UN-No UN1105  
 Proper Shipping Name PENTANOLS  
 Hazard Class 3  
 Packing Group III

### IATA

UN-No UN1105  
 Proper Shipping Name PENTANOLS  
 Hazard Class 3  
 Packing Group III

### IMDG/IMO

UN-No UN1105  
 Proper Shipping Name PENTANOLS

Hazard Class 3  
Packing Group III

## 15. Regulatory information

### International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
1-Pentanol	71-41-0	X	-	X	ACTIVE	200-752-1	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
1-Pentanol	71-41-0	X	KE-28005	X	X	X	X	X	X

#### Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
1-Pentanol	Part 4 Substance		

### Other International Regulations

#### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1-Pentanol	-	Use restricted. See item 75. (see link for restriction details)	-

#### REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
1-Pentanol	71-41-0	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)

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1-Pentanol	71-41-0	Not applicable	Not applicable	Not applicable	Not applicable
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## 16. Other information

**Prepared By**

Product Safety Department  
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www.thermofisher.com

**Creation Date**

26-September-2009

**Revision Date**

29-March-2024

**Print Date**

29-March-2024

**Revision Summary**

New emergency telephone response service provider.

**Disclaimer**

The information provided in this 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 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

**End of SDS**