

GPS Safety Summary

Substance Name:

Heptanol

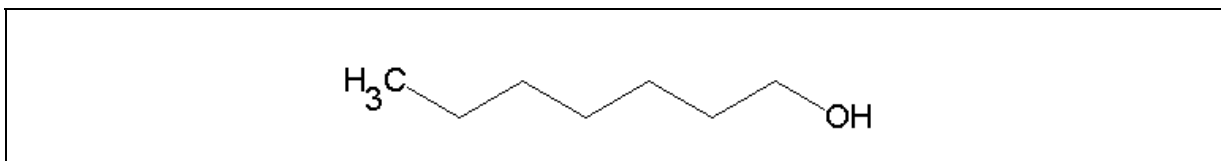
1. General Statement

Heptanol is produced to be used as a synthesis intermediate in the fragrances and flavors industry and in cosmetics industry. It can also be used as a synthesis intermediate in plasticizers production for polymers.

The substance is manufactured and handled in industrial settings.

2. Chemical Identity

Name: Heptanol
Brand names: n-Heptanol
Chemical name (IUPAC): Heptan-1-ol
CAS number(s): 111-70-6
EC number: 203-897-9
Molecular formula: C₇H₁₆O
Structure:



3. Use and applications

Heptanol can be used as a synthesis intermediate in the flavors and fragrances industry; for example 2-decalactone with a fruity peachy character and esters from C1 to C8 acids with green, floral or fruity notes can be manufactured from heptanol.

As a chemical intermediate, it is also used in cosmetics industry in the synthesis of vegetable-based emollients.

The resulting food or fragranced or cosmetics products are sold to and thus used by consumers.

Heptanol can also be used as a synthesis intermediate for plasticizers for polymers.

4. Physical / Chemical properties

Heptanol is a colourless liquid with the following physical/chemical properties:

Property	Value
Physical state	Liquid at 20°C and 101.3 hPa
Colour	Colourless

Odour	Slight
Molecular weight	116,0 g/mol
Density	0,822 g/cm ³ at 20°C
Vapour pressure	70 Pa at 20°C
Freezing / boiling points	-34,6°C / 179°C to 184°C at 1013 hPa
Flash point – flammability	76°C at 1013 hPa – Not flammable
Explosive / oxidizing properties	Not expected based on structure
Self-ignition temperature	292°C at 992 hPa
Water solubility	1,63 g/L at 20°C
Octanol-water partition coefficient (Log K _{ow})	2,2 at 20°C

5. Health Effects

Aliphatic alcohols are known to be absorbed by all common routes of exposure widely distributed within the body and eliminated.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Heptanol is not harmful if swallowed, if inhaled or by dermal contact.
Irritation / corrosion Skin / eye/ respiratory tract	Heptanol is irritant to the eyes. Heptanol is not irritant after skin contact.
Sensitisation	Heptanol does not cause skin allergy.
Toxicity after repeated exposure Oral / inhalation / dermal	Heptanol does not cause specific target organ toxicity after repeated oral exposure.
Genotoxicity / Mutagenicity	Heptanol does not cause genetic defects.
Carcinogenicity	No information is available.
Reproductive / Developmental Toxicity	Experiment studies with heptanol shown no indication of males and female fertility effect. Comparable compounds showed no effect on fetal development.

6. Environmental Effects

Based on available data, heptanol is harmful to aquatic organisms. But due to its properties, the risk for the aquatic compartment is low. Indeed, the substance is neither bioaccumulative nor persistent and has a rapid degradation in water: it will be quickly removed by sewage treatment plants.

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic organisms

Fate and behaviour	Result
(Bio)degradation potential	Readily biodegradable
Bioaccumulation potential	Not expected to bioaccumulate

PBT / vPvB conclusion	Not considered either as PBT (Persistent, Bioaccumulative, and Toxic chemical) nor as vPvB (Very Persistent and Very Bioaccumulative)
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7. Exposure

7.1 Human health

Considering the life cycle of the substance (manufacture and use as intermediate of synthesis) consumers will not come into contact with heptanol.

Worker exposure can occur in facilities manufacturing or using the substance. Worker activities are mainly undertaken in closed systems resulting in a low exposure. However when workers are exposed, during handling, loading, sampling or maintenance operations, they should follow the recommended safety measures in the extended Safety Data Sheet (eSDS). Given the irritating properties of the substance, special attention should be paid to avoid eye contact.

7.2 Environment

Emissions of heptanol the environment may occur during production and use of the substance. As the substance is soluble and has a low potential for adsorption its main target compartment in the environment will be the water compartment where it is not expected to persist as it is readily biodegradable.

Due to its low vapour pressure heptanol has a low potential for volatilisation.

Based on its low potential for bioaccumulation, heptanol is not expected to pose a risk to the food chain.

8. Risk Management recommendations

Human health measures		
Organizational	Implement good basic standards of occupational hygiene. Ensure operatives are well informed of the hazards and trained to minimise exposures. Refer to the latest available extended safety data sheet (eSDS).	
Engineering controls	Should be handled in well ventilated areas. Provide appropriate local exhaust ventilation at points of emission. Ensure that eye- and handwash stations and safety showers are close to workstation locations.	
Protection	Eye/Face protection:	Safety glasses
	Skin protection:	Protective suit
	Hand protection:	Solvent resistant gloves tested to standard EN374
	Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment
Environment protective measures		
On-site waste water treatment is required. Do not release into the environment. Do not let product enter drains. Dam up with inert material. Destroy absorbed product in accordance with local and national regulations.		

9. Regulatory Information / Classification and Labelling


9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

9.2 Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
According to REGULATION (EC) no 1272/2008: — Eye Irritation; Category 2; Causes serious eye irritation.	
Signal word	
— Warning	
Pictogram	
— GHS07: exclamation mark	
Hazard statement	
— H319: Causes serious eye irritation.	
Additional classification according to Globally Harmonized System (GHS)	
— Flammable liquid; Category 4; Combustible liquid — Acute toxicity by inhalation; Category 5; May be harmful if inhaled — Aquatic acute toxicity; Category 3; Harmful to aquatic life	

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

- arkema.reach-dpt1@arkema.com
- ICCA portal where the GPS Safety Summary is posted:
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Date of Issues / Revision

- Date of issue: 2014-06-10
- Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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