

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.5

Revision Date 21.03.2023

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : n-Amyl alcohol for synthesis

Product Number : 8.07500

Catalogue No. : 807500

Brand : Millipore

Index-No. : 603-200-00-1

REACH No. : 01-2119491284-34-XXXX

CAS-No. : 71-41-0

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Chemical for synthesis

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

Company : Sigma-Aldrich Chemie GmbH  
Eschenstrasse 5  
D-82024 TAUFKIRCHEN

Telephone : +49 (0)89 6513-1130

Fax : +49 (0)89 6513-1161

E-mail address : technischerservice@merckgroup.com

### 1.4 Emergency telephone

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)  
+49 (0)696 43508409 (CHEMTREC  
weltweit)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318


Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.


### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008



Pictogram	
Signal Word	Danger
Hazard statement(s)	
H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### Reduced Labeling (<= 125 ml)

Pictogram	
Signal Word	Danger
Hazard statement(s)	
H318	Causes serious eye damage.
Precautionary statement(s)	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### 2.3 Other hazards

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.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	: C5H12O
Molecular weight	: 88,15 g/mol
CAS-No.	: 71-41-0



EC-No. : 200-752-1  
Index-No. : 603-200-00-1

Component		Classification	Concentration
<b>n-Amyl alcohol</b>			
CAS-No.	71-41-0	Flam. Liq. 3; Acute Tox. 4;	<= 100 %
EC-No.	200-752-1	Skin Irrit. 2; Eye Dam. 1;	
Index-No.	603-200-00-1	STOT SE 3; H226, H332, H315, H318, H335	

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Foam Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

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.



### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

#### Storage class

Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated



## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 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/m <sup>3</sup>
Worker DNEL, longterm	inhalation	Local effects	73,16 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	Systemic effects	292 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	Local effects	292 mg/m <sup>3</sup>
Consumer DNEL, longterm	inhalation	Systemic effects	15,4 mg/m <sup>3</sup>
Consumer DNEL, longterm	inhalation	Local effects	15,4 mg/m <sup>3</sup>
Consumer DNEL, acute	inhalation	Systemic effects	256,4 mg/m <sup>3</sup>
Consumer DNEL, acute	inhalation	Local effects	256,4 mg/m <sup>3</sup>
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

### 8.2 Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).  
Full contact



Material: Nitrile rubber  
Minimum layer thickness: 0,4 mm  
Break through time: 480 min  
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Chloroprene  
Minimum layer thickness: 0,65 mm  
Break through time: 240 min  
Material tested:KCL 720 Camapren®

### **Body Protection**

Flame retardant antistatic protective clothing.

### **Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |                                                 |                                                                               |
|-------------------------------------------------|-------------------------------------------------------------------------------|
| a) Physical state                               | liquid                                                                        |
| b) Color                                        | colorless                                                                     |
| c) Odor                                         | No data available                                                             |
| d) Melting point/freezing point                 | Melting point/freezing point: -78,6 °C at 1.013 hPa - OECD Test Guideline 102 |
| e) Initial boiling point and boiling range      | 138 °C at 1.013 hPa - (ECHA)                                                  |
| f) Flammability (solid, gas)                    | No data available                                                             |
| g) Upper/lower flammability or explosive limits | Upper explosion limit: 8,0 %(V)<br>Lower explosion limit: 1,6 %(V)            |
| h) Flash point                                  | 49 °C - closed cup                                                            |
| i) Autoignition temperature                     | 300 °C<br>at 1.004 - 1.008 hPa - DIN 51794                                    |



- |                                           |                                                                                       |
|-------------------------------------------|---------------------------------------------------------------------------------------|
| j) Decomposition temperature              | No data available                                                                     |
| k) pH                                     | 7                                                                                     |
| l) Viscosity                              | Viscosity, kinematic: No data available<br>Viscosity, dynamic: 3,441 mPa.s at 24,9 °C |
| m) Water solubility                       | 21 g/l at 20 °C - OECD Test Guideline 105                                             |
| n) Partition coefficient: n-octanol/water | log Pow: 1,41 at 25 °C - - Bioaccumulation is not expected., (ECHA)                   |
| o) Vapor pressure                         | 2,04 hPa at 20 °C - OECD Test Guideline 104                                           |
| p) Density                                | 0,815 g/cm <sup>3</sup>                                                               |
| Relative density                          | No data available                                                                     |
| q) Relative vapor density                 | No data available                                                                     |
| r) Particle characteristics               | No data available                                                                     |
| s) Explosive properties                   | No data available                                                                     |
| t) Oxidizing properties                   | none                                                                                  |

## 9.2 Other safety information

Dissociation constant 16,26

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 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

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

rubber, various plastics



## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 3.645 mg/kg

(OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 4 h - 11,1 mg/l - vapor

(Expert judgment)

LD50 Dermal - Rabbit - male - 2.292 mg/kg

(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritations - 20 h

Remarks: (ECHA)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Remarks: (ECHA)

#### Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: Micronucleus test

Test system: Chinese hamster fibroblasts

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

#### Carcinogenicity

No data available

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

May cause respiratory irritation. - Respiratory system

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available



## 11.2 Additional Information

### Endocrine disrupting properties

#### **Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 1.000 mg/kg

Repeated dose toxicity - Rat - male - inhalation (vapor)  
Remarks: (ECHA)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Headache  
somnolence  
lack of appetite  
Nausea  
Vomiting  
Diarrhea  
Dizziness  
Unconsciousness  
Coma  
narcosis

Possible damages:

Damage to:

Liver  
Kidney  
Cardiac  
Lungs

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological information

### 12.1 Toxicity

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

Millipore- 8.07500

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The life science business of Merck operates as MilliporeSigma in the US and Canada



Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 341,21 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 18 d  
Result: 100 % - Readily biodegradable.  
(OECD Test Guideline 310)

Biochemical Oxygen Demand (BOD) 1.278 mg/g  
Remarks: (IUCLID)

Chemical Oxygen Demand (COD) 1.814 mg/g  
Remarks: (IUCLID)

Ratio BOD/ThBOD 47 %  
Remarks: (IUCLID)

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

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.

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

Additional ecological information No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### **Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1105

IMDG: 1105

IATA: 1105



#### 14.2 UN proper shipping name

ADR/RID: PENTANOLS

IMDG: PENTANOLS

IATA: Pentanols

#### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

#### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

#### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

#### 14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

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### SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

##### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

##### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	Flammable liquid and vapor.



## Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

## Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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