

# Safety Data Sheet

acc. to OSHA HCS

Date of issue: 07/22/2025

Reviewed on 07/22/2025

## 1 Identification

- **Product identifier**
- **Trade name:** Isoamyl alcohol
- **CAS Number:**  
123-51-3
- **Other means of identification**
- **Article number:** 39557
- **EC number:**  
204-633-5
- **Index number:**  
603-006-00-7
- **Application of the substance / the mixture:** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de
- **Information department:** Security Department Phone: +49 6221 13840-34
- **Emergency telephone number:**  
Emergency medical information in case of poisoning  
Poison Information Center Mainz-Tel: +49 (0) 6131 19240  
(Advice in German and English)



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02

Flammable liquids 3

H226 Flammable liquid and vapor.



GHS07

Acute toxicity - inhalation 4

H332 Harmful if inhaled.

Skin irritation 2

H315 Causes skin irritation.

Eye irritation 2A

H319 Causes serious eye irritation.

Specific target organ toxicity (single exposure) 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:** GHS02, GHS07
- **Signal word:** Warning
- **Hazard statements:**  
Flammable liquid and vapor.  
Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.

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- **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take action to prevent static discharge.

Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

If on skin: Wash with plenty of soap and water.

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.

- **Information pertaining to particular dangers for man and environment:**

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 2

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 2

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment:**

· **PBT:** PBT - Assessment not available.

· **vPvB:** vPvB - Assessment not available.

- **Classification according to (d)(1)(ii) of § 1910.1200**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

- **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description:**

123-51-3 3-methylbutan-1-ol

- **Identification number(s):**

· **EC number:** 204-633-5

· **Index number:** 603-006-00-7

- **Description:**

· **Empirical formula:**  $C_5H_{12}O$

· **MW:** 88.15

## 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

- **After skin contact:**

Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.

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- **After eye contact:**  
Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. Consult an ophthalmologist immediately.
- **After swallowing:**  
Rinse mouth and seek medical advice.  
Do not induce vomiting!
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub> extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Formation of hazardous vapors and gases possible during heating or in case of fire.  
Vapors may form flammable and explosive mixtures with air.  
Flammable substance, vapors are heavier than air and spread over the ground.  
In case of fire or if heated, pressure in the container increases and may burst.  
In case of fire, the following can be released:  
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation  
Keep away from ignition sources  
Take action to prevent static discharges.  
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**  
Dispose contaminated material as waste according to section 13.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 125 ppm
- **PAC-2:** 1700\* ppm
- **PAC-3:** 10000\*\* ppm
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling:**  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
Keep away from heat and direct sunlight.

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*Open and handle receptacle with care.***· Information about protection against explosions and fires:***Protect against electrostatic charges.**Keep ignition sources away - Do not smoke.***· Conditions for safe storage, including any incompatibilities****· Storage:****· Requirements to be met by storerooms and receptacles:** *Store only in the original receptacle.***· Information about storage in one common storage facility:** *Do not store together with oxidizing materials.***· Further information about storage conditions:** *Store container tightly closed and dry.***· Specific end use(s):** *No further relevant information available.***8 Exposure controls/personal protection****· Control parameters****· Components with limit values that require monitoring at the workplace:****123-51-3 3-methylbutan-1-ol (80-100%)**

PEL	Long-term value: 360 mg/m <sup>3</sup> , 100 ppm primary and secondary
REL	Short-term value: 450 mg/m <sup>3</sup> , 125 ppm Long-term value: 360 mg/m <sup>3</sup> , 100 ppm primary and secondary
TLV	Short-term value: 452 mg/m <sup>3</sup> , 125 ppm Long-term value: 361 mg/m <sup>3</sup> , 100 ppm

**· Additional information:** *The lists that were valid during the creation were used as basis.***· Exposure controls****· Appropriate engineering controls** *No further data; see section 7.***· Personal protective equipment:****· General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Store protective clothing separately.**Immediately remove all soiled and contaminated clothing.**Avoid contact with the eyes and skin.**Wash hands before breaks and at the end of work.***· Breathing equipment:***Short term filter device:**Filter A/P2***· Protection of hands:***The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation***· Material of gloves:***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***· Penetration time of glove material:***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***· For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:***Nitrile rubber, NBR**Chloroprene rubber, CR**Neoprene gloves*

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- **Eye protection:** Tightly sealed goggles
- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information:

- |   |   |
|---|---|
| · <b>Physical state</b>                           | Liquid  |
| · <b>Color:</b>                                   | Colorless   |
| · <b>Odor:</b>                                    | Characteristic  |
| · <b>Odor threshold:</b>                          | not determined.   |
| · <b>Melting point/Melting range:</b>             | -117 °C (-178.6 °F)   |
| · <b>Boiling point/Boiling range:</b>             | 131-132 °C (267.8-269.6 °F)   |
| · <b>Flammability:</b>                            | Flammable liquid and vapor according to CLP Regulation (EU) No. 1272/2008: Flam. Liq. 3 H226 Flammable. |
| · <b>Explosion limits:</b>                        |   |
| · <b>Lower:</b>                                   | 1.2 Vol %   |
| · <b>Upper:</b>                                   | ~8 Vol %  |
| · <b>Flash point:</b>                             | 43 °C (109.4 °F)  |
| · <b>Auto igniting:</b>                           | 340 °C (644 °F)   |
| · <b>Decomposition temperature:</b>               | Not determined.   |
| · <b>pH-value:</b>                                | No information available  |
| · <b>Viscosity:</b>                               |   |
| · <b>Kinematic:</b>                               | No information available  |
| · <b>Dynamic:</b>                                 | No information available  |
| · <b>Solubility in / Miscibility with:</b>        |   |
| · <b>Water at 20 °C (68 °F):</b>                  | 25 g/l  |
| · <b>Partition coefficient (n-octanol/water):</b> | No information available  |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 2.7 hPa (2 mm Hg)   |
| · <b>Vapor pressure:</b>                          |   |
| · <b>Density at 20 °C (68 °F):</b>                | 0.808-0.818 g/cm <sup>3</sup> (6.74276-6.82621 lbs/gal)   |
| · <b>Relative density:</b>                        | No information available  |
| · <b>Particle characteristics</b>                 | Not applicable.   |

### · Other information

- |  |   |
|--|---|
| · <b>Appearance:</b>   |   |
| · <b>Form:</b>   | Liquid  |
| · <b>Important information on protection of health and environment, and on safety:</b> |   |
| · <b>Danger of explosion:</b>  | Product is not explosive. However, formation of explosive air/vapor mixtures are possible.<br>Not determined. |

## 10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:**  
Reacts with strong oxidizing agents.  
Vapors may form flammable and explosive mixtures with air.
- **Conditions to avoid:**  
Avoid high temperatures, flames and sparks  
Moisture

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- **Incompatible materials:**  
Avoid contact with:  
strong oxidizers  
different plastic materials
- **Hazardous decomposition products:** In case of fire: see section 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	1,300 mg/kg (rat)
Dermal	LD50	3,216 mg/kg (rabbit)
	LC50/96h	700 mg/l (fish)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Interactive effects** No interactive effects between components are known.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.
- **Alternative sources for toxicological information**  
No non-standard sources for toxicological information where used.

## 12 Ecological information

- **Toxicity:**

- **Aquatic toxicity:**

EC50/48h	260 mg/l (Daphnia magna)
EC50/72h	493 mg/l (algae)

- **Persistence and degradability:** No further relevant information available.
- **Other information:**  
The product is readily biodegradable.  
84 % in 27 d
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 1 (Assessment by list): slightly hazardous for water

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Dispose of in accordance with official regulations.

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Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:**

Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.

## 14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN1105

· **UN proper shipping name**

· **DOT**

Pentanol

· **ADR**

1105 PENTANOLS

· **IMDG, IATA**

PENTANOLS

· **Transport hazard class(es)**

· **DOT**



· **Class**

3 Flammable liquids

· **Label**

3

· **ADR, IMDG, IATA**



· **Class:**

3 Flammable liquids

· **Label:**

3

· **Packing group**

· **DOT, ADR, IMDG, IATA**

III

· **Environmental hazards**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Special precautions for user**

Warning: Flammable liquids

· **Hazard identification number (Kemler code):**

30

· **EMS Number:**

F-E,S-D

· **Stowage Category**

A

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· UN "Model Regulation":

UN 1105 PENTANOLS, 3, III

\*

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS02, GHS07
- **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**  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take action to prevent static discharge.  
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
If on skin: Wash with plenty of soap and water.  
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.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product Safety Department
- **Contact:** +49 6221 13840-34
- **Date of previous version** 05/02/2018
- **Date of preparation** 07/22/2025
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
PBT: persistent, bioaccumulative, toxic substance (REACH)  
vPvB: very persistent, very bioaccumulative substance (REACH)  
REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
CLP: Regulation on classification, labelling and packaging of substances and mixtures

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bw: body weight

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable liquids 3: Flammable liquids – Category 3

Acute toxicity - inhalation 4: Acute toxicity – Category 4

Skin irritation 2: Skin corrosion/irritation – Category 2

Eye irritation 2A: Serious eye damage/eye irritation – Category 2A

Specific target organ toxicity (single exposure) 3: Specific target organ toxicity (single exposure) – Category 3

US