Safety Data Sheet
acc. to OSHA HCS

Printing date 06/12/2023 *Reviewed on 06/12/2023*

*
1 Identification

· **Product identifier**

· **Trade name: Isopropanol for LC-MS**

· **Article number:** 45636
· **CAS Number:**
67-63-0
· **EC number:**
200-661-7
· **Index number:**
603-117-00-0
· **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:** Product Safety department Tel.: +49 6221 13840-35
· **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02

Flammable Liquids 2 — H225 Highly flammable liquid and vapor.

GHS07

Eye Irritation 2A — H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 3 — H336 May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:** GHS02, GHS07
· **Signal word:** Danger
· **Hazard statements:**
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.
· **Precautionary statements**
Take precautionary measures against static discharge.
Avoid breathing mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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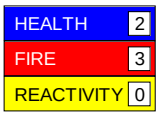
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment:**
· **PBT:** PBT - assessment not available.
· **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description:**
67-63-0 propan-2-ol
· **Identification number(s):**
· **EC number:** 200-661-7
· **Index number:** 603-117-00-0
· **Description:**

· **Empirical formula:**		
67-63-0	propan-2-ol	C_3H_8O

· **MW:** 60.10

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.
· **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist immediately.
· **After swallowing:**
Wash out mouth. Call a doctor immediately.
Do not induce vomitting - risk of possible aspiration!
· **Most important symptoms and effects, both acute and delayed**
Dizziness
Headache
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
Flammable substance, vapours are heavier than air and spread over the floor.
Vapours can form explosive mixtures with air.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Do not inhale vapours.
Take action to prevent static discharges.
· **Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
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 item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Protective Action Criteria for Chemicals**
· **PAC-1:** 400 ppm
· **PAC-2:** 2000* ppm
· **PAC-3:** 12000** 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:** No special precautions are necessary if used correctly.
· **Information about protection against explosions and fires:**
Protect against electrostatic charges.
Keep ignition sources away - Do not smoke.
Fumes can combine with air to form an explosive mixture.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Keep away from sources of heat.
Unsuitable packaging material:
Aluminium
many plastic materials
Store in a cool location.
· **Information about storage in one common storage facility:**
Do not store together with strong acids, strong alkalis and strong oxidizing agents.
· **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.

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· **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:**

67-63-0 propan-2-ol (80-100%)

PEL	Long-term value: 980 mg/m³, 400 ppm
REL	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV	Short-term value: 400 ppm Long-term value: 200 ppm BEI, A4

· **Ingredients with biological limit values:**
Biological limit value: 50 mg/l
Test material: whole blood
Time of sampling: end of exposure or shift value
Parameter: acetone

Biological limit value: 50 mg/l
Test material: urine
Time of sampling: end of exposure or shift value
Parameter: acetone

67-63-0 propan-2-ol (80-100%)

BEI	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Additional information about design of technical systems:** No further data; see item 7.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Avoid contact with the eyes.
· **Breathing equipment:**
Short term filter device:
Filter ABEK-P2
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Protective gloves
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.

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· **Penetration time of glove material:**
The exact break trough 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
· **Eye protection:** Tightly sealed goggles
· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information:**	
· **Color:**	Clear
· **Odor:**	Alcohol-like
· **Odor threshold:**	Not determined.
· **Melting point/Melting range:**	-89.5 °C (-129.1 °F)
· **Boiling point/Boiling range:**	82 °C (179.6 °F)
· **Flammability (solid, gaseous):**	Highly flammable.
· **Explosion limits:**	
· **Lower:**	2 Vol %
· **Upper:**	13.5 Vol %
· **Flash point:**	12 °C (53.6 °F)
· **Ignition temperature:**	425 °C (797 °F)
· **Decomposition temperature:**	no information available
· **pH-value:**	no information available
· **Viscosity:**	
· **Kinematic viscosity:**	no information available
· **Dynamic viscosity at 20 °C (68 °F):**	2.43 mPas
· **Solubility in / Miscibility with:**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	no information available
· **Vapor pressure at 20 °C (68 °F):**	43 hPa (32.3 mm Hg)
· **Density at 20 °C (68 °F):**	0.785 g/cm³ (6.55083 lbs/gal)
· **Relative density:**	no information available
· **Other information**	There are no more data available.
· **Appearance:**	
· **Form:**	Liquid
· **Important information on protection of health and environment, and on safety:**	
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Molecular weight**	60.1 g/mol

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:**
Forms explosive gas mixture with air.
Reacts with strong oxidizing agents.
Reacts with strong acids.
Used empty containers may contain product gases which form explosive mixtures with air.

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Danger of bursting.
· **Conditions to avoid:** Avoid high temperatures, flames, sparks
· **Incompatible materials:** Avoid contact with: strong oxidizers, strong acids, strong alcali
· **Hazardous decomposition products:** In case of fire: See Section 5

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
Oral	LD50	4,570 mg/kg (rat)
Dermal	LD50	13,400 mg/kg (rabbit)
Inhalative	LC50/4h	30 mg/l (rat)

· **on the eye:** Causes serious eye irritation.
· **Specific target organ toxicity - single exposure:** May cause drowsiness or dizziness.
· **Additional toxicological information:**

· **Carcinogenic categories**
· **IARC (International Agency for Research on Cancer)** 3
· **NTP (National Toxicology Program)** Substance is not listed.
· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

· **Toxicity:**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability:** No further relevant information available.
· **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:**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1219
· **UN proper shipping name**	
· **DOT**	Isopropanol
· **ADR**	1219 ISOPROPANOL (ISOPROPYL ALCOHOL)
· **IMDG, IATA**	ISOPROPANOL (ISOPROPYL ALCOHOL)
· **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**	II
· **Environmental hazards**	Not applicable.
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-D
· **Stowage Category**	B
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Section 355 (extremely hazardous substances):** Substance is not listed.
· **Section 313 (Specific toxic chemical listings):** Substance is listed.
· **TSCA (Toxic Substances Control Act):** ACTIVE

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· **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.

· **Cancerogenity categories**
· **EPA (Environmental Protection Agency)** Substance is not listed.
· **TLV (Threshold Limit Value)** A4
· **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** Danger
· **Hazard statements**
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.
· **Precautionary statements**
Take precautionary measures against static discharge.
Avoid breathing mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.

· **National regulations:**

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
· **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 13840-35
· **Date of preparation / last revision** 06/12/2023
· **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
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

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OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – 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