

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

1 Identification

- **Product identifier**
- **Trade name:** Acetone
- **Article number:** 45632
- **CAS Number:**
67-64-1
- **EC number:**
200-662-2
- **Index number:**
606-001-00-8
- **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:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)

SERVA
■ serving scientists ■

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**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 1)

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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:**
67-64-1 acetone
- **Identification number(s):**
- **EC number:** 200-662-2
- **Index number:** 606-001-00-8

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.
- **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 immediately. Drink plenty of water and fresh air. Call a doctor immediately.
- **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:**
CO₂, 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, vapors are heavier than air and spread on the ground. Vapors may accumulate in low-lying areas.
Vapors may form flammable and explosive mixtures with air.
In case of fire, formation of hazardous fire gases or vapors possible.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 2)

- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Keep away from ignition sources
- **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:** 200 ppm
- **PAC-2:** 3200* ppm
- **PAC-3:** 5700* 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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store at dry places in tightly closed receptacles.
Keep away from heat sources.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
store away from acute toxic materials
Do not store together with flammable solids.
- **Further information about storage conditions:**
Store receptacle in a well ventilated area.
Keep container tightly closed.
- **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:**

67-64-1 acetone (80-100%)

PEL	Long-term value: 2400 mg/m ³ , 1000 ppm
REL	Long-term value: 590 mg/m ³ , 250 ppm
TLV	Short-term value: 500 ppm Long-term value: 250 ppm
	A4, BEI

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 3)

· Ingredients with biological limit values:

67-64-1 acetone (80-100%)

BEI	25 mg/L
	Medium: urine
	Time: end of shift
	Parameter: Acetone (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 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 AX

· **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:**

Butyl rubber, BR

· **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:**

Colorless

· **Odor:**

Acetone-like

· **Odor threshold:**

Not determined.

· **Melting point/Melting range:**

-94 °C (-137.2 °F)

· **Boiling point/Boiling range:**

56 °C (132.8 °F)

· **Flammability (solid, gaseous):**

Highly flammable liquid and vapor according to CLP Regulation (EU) No. 1272/2008: Flam. Liq. 2 H225

· **Explosion limits:**

· **Lower:**

2 Vol %

· **Upper:**

13 Vol %

· **Flash point:**

<-17 °C (<1.4 °F)

· **Auto igniting:**

465 °C (869 °F)

· **Decomposition temperature:**

No information available

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 4)

· pH-value:	No information available
· Viscosity:	No information available
· Kinematic viscosity:	No information available
· Dynamic viscosity:	No information available
· Solubility in / Miscibility with:	
· Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	No information available
· Vapor pressure at 20 °C (68 °F):	245.3 hPa (184 mm Hg)
· Vapor pressure:	
· Density at 20 °C (68 °F):	0.79 g/cm ³ (6.59255 lbs/gal)
· Relative density:	Not determined.

· Other information	
· Appearance:	
· Form:	Fluid
· 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	58.08 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:**
violent reactions possible in contact with:
strong oxidizing agents
strong reducing agents
Vapours can form flammable and explosive mixtures with air.
- **Conditions to avoid:** Avoid high temperatures, flames, sparks
- **Incompatible materials:** rubber, various plastic materials
- **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	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
Inhalative	LC50/4h	76 mg/l (rat)
	LC50/96h	6,210 mg/l (<i>Pimephales promelas</i>) (OECD Test Guideline 203)
	EC50/0,5h (static)	61.15 mg/l (activated sludge) (OECD Test Guideline 209)

- **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)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/18/2023

Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 5)

· OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information

· **Toxicity:**· **Aquatic toxicity:**NOEC (static) 530 mg/l (*Microcystis aeruginosa*) (DIN 38412)· **Persistence and degradability:**

Biochemical oxygen demand (BOD), 5 d (IUCLID): 1,850 mg/g

Chemical oxygen demand (COD) (IUCLID): 2.070 mg/g

Biodegradability: 91% in 28 d (OECD Test Guideline 301 B).

· **Other information:** The product is readily biodegradable.· **Bioaccumulative potential:** Bioaccumulation potential is not expected.· **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.

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.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**· **DOT, ADR, IMDG, IATA**

UN1090

· **UN proper shipping name**· **DOT**

Acetone

· **ADR**

1090 ACETONE

· **IMDG, IATA**

ACETONE

· **Transport hazard class(es)**· **DOT**· **Class**

3 Flammable liquids

(Contd. on page 7)

Safety Data Sheet


acc. to OSHA HCS

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Reviewed on 10/18/2023

Trade name: Acetone

(Contd. of page 6)

· Label	3
· ADR, IMDG, IATA	
	
· Class:	3 Flammable liquids
· Label:	3
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	E
· 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
· Item:	
· 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 1090 ACETONE, 3, II

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) I**
- **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).

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

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(Contd. of page 7)

- **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**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 13840-35
- **Date of preparation / last revision** 10/18/2023
- **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
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

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