

1 Identification

- **Product identifier**
- **Trade name:** 3-HEPTANONE
- **Article number:** 195217
- **CAS Number:**
106-35-4
- **EC number:**
203-388-1
- **Molecular Formula** C7 H14 O
- **Molecular Weight** 114.2 g/mol
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2A H319 Causes serious eye 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-determining components of labeling:**
heptan-3-one
- **Hazard statements**
Flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 1)

- **Precautionary statements**

- Wear protective gloves / eye protection / face protection.
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Ground/bond container and receiving equipment.
- Keep container tightly closed.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- 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.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Call a POISON CENTER/doctor if you feel unwell.
- If eye irritation persists: Get medical advice/attention.
- In case of fire: Use for extinction: CO₂, powder or water spray.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
106-35-4 heptan-3-one
- **Identification number(s)**
- **EC number:** 203-388-1

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 2)

- If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.*
- **After skin contact:** *Immediately rinse with water.*
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **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.
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *Mouth respiratory protective device.*

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*
- **Methods and material for containment and cleaning up:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Pick up mechanically, dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.*
- **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

- **Handling:**
- **Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.
Prevent formation of aerosols.*
- **Information about protection against explosions and fires:**
*Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** *15-30 °C*
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Specific end use(s)** *No further relevant information available.*

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 3)

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see Section 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

106-35-4 heptan-3-one

PEL	Long-term value: 230 mg/m ³ , 50 ppm
REL	Long-term value: 230 mg/m ³ , 50 ppm
TLV	Short-term value: 350 mg/m ³ , 75 ppm Long-term value: 234 mg/m ³ , 50 ppm

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

· **Exposure controls**

· **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.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

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.

· **Eye protection:**



Tightly sealed goggles

US

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 4)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Indeterminate
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Boiling point/Boiling range: Undetermined.

· **Flash point:** 41 °C (106 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 390 °C (734 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower:	Not Applicable
Upper:	Not Applicable

· **Vapor pressure:** Not Applicable

· **Density:** Not Applicable

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with** Not Determined

· **Water at 20 °C (68 °F):** 4.3 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

· **Solvent content:**

Organic solvents: 0.0 %

VOC content: 0.0 g/l / 0.00 lb/gl

· **Other information** No further relevant information available.

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** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 5)

- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **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.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- Water hazard class 1 (Self-assessment): slightly hazardous for water
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
- Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS



Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 6)

14 Transport information

· UN-Number	UN1224
· DOT, ADR, IMDG, IATA	
· UN proper shipping name	Ketones, liquid, n.o.s. (heptan-3-one)
· DOT	1224 Ketones, liquid, n.o.s. (heptan-3-one)
· ADR	1224 Ketones, liquid, n.o.s. (heptan-3-one)
· IMDG, IATA	KETONES, LIQUID, N.O.S. (heptan-3-one)
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	III
· DOT, ADR, IMDG, IATA	
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	30
· EMS Number:	3-07
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· 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

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 7)

· UN "Model Regulation": UN 1224 KETONES, LIQUID, N.O.S. (HEPTAN-3-ONE), 3, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

- Section 355 (extremely hazardous substances):

Substance is not listed.

- Section 313 (Specific toxic chemical listings):

Substance is not listed.

- TSCA (Toxic Substances Control Act):

Substance is listed.

- Proposition 65

- 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.

- Carcinogenic categories

- EPA (Environmental Protection Agency)

Substance is not listed.

- TLV (Threshold Limit Value established by ACGIH)

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-determining components of labeling:

heptan-3-one

- Hazard statements

Flammable liquid and vapor.

Harmful if inhaled.

Causes serious eye irritation.

- Precautionary statements

Wear protective gloves / eye protection / face protection.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/09/2016

Reviewed on 11/09/2016

Trade name: 3-HEPTANONE

(Contd. of page 8)

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Ground/bond container and receiving equipment.
 Keep container tightly closed.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 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.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.
 · **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:** Quality Control Dept.
- **Date of preparation / last revision** 11/09/2016 / -
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

VOC: Volatile Organic Compounds (USA, EU)

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

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

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