# SAFETY DATA SHEET

Version 5.4
Revision Date 07/17/2018
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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : Acetone

Product Number : V800023
Brand : Vetec
Index-No. : 606-001-00-8

CAS-No. : 67-64-1

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
Flammable liquids (Category 2), H225
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

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

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

| | |
|---|---|
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| 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. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS** - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substances**

| | | |
|---|---|---|
| Molecular weight | : | 58.08 g/mol |
| CAS-No. | : | 67-64-1 |
| EC-No. | : | 200-662-2 |
| Index-No. | : | 606-001-00-8 |
| Registration number | : | 01-2119471330-49-XXXX |

**Hazardous components**

| Component | Classification | Concentration |
|---|---|---|
| **Acetone** | | |
| | Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3; H225, H319, H336 | 90 - 100 % |

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

## 4. FIRST AID MEASURES

**4.1 Description of first aid measures**

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture
No data available

### 5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information
Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

### 6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

### 6.4 Reference to other sections
For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Components with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Acetone | 67-64-1 | TWA | 250 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Central Nervous System impairment<br>Upper Respiratory Tract irritation<br>Eye irritation<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section)<br>Not classifiable as a human carcinogen | | |

| | | | | |
|---|---|---|---|---|
| | | STEL | 500 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Central Nervous System impairment<br>Upper Respiratory Tract irritation<br>Eye irritation<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section)<br>Not classifiable as a human carcinogen | | |
| | | TWA | 250 ppm<br>590 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | TWA | 1,000 ppm<br>2,400 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | The value in mg/m3 is approximate. | | |
| | | STEL | 750 ppm<br>1,780 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | C | 3,000 ppm | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | PEL | 500 ppm<br>1,200 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

**Biological occupational exposure limits**

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|---|---|---|---|---|---|
| | - | Acetone | 25 mg/l | Urine | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | End of shift (As soon as possible after exposure ceases) | | | |

## 8.2 Exposure controls

**Appropriate engineering controls**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid, clear<br>Colour: colourless |
| b) | Odour | No data available |
| c) | Odour Threshold | No data available |
| d) | pH | No data available |
| e) | Melting point/freezing point | Melting point/range: -94.0 °C (-137.2 °F) |
| f) | Initial boiling point and boiling range | 56.0 °C (132.8 °F) at 1,013 hPa (760 mmHg) |
| g) | Flash point | -17.0 °C (1.4 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: 13 %(V)<br>Lower explosion limit: 2 %(V) |
| k) | Vapour pressure | 533.3 hPa (400.0 mmHg) at 39.5 °C (103.1 °F)<br>245.3 hPa (184.0 mmHg) at 20.0 °C (68.0 °F) |
| l) | Vapour density | No data available |
| m) | Relative density | 0.79 g/cm3 |
| n) | Water solubility | completely miscible |
| o) | Partition coefficient: n-octanol/water | log Pow: -0.24 |
| p) | Auto-ignition temperature | 465.0 °C (869.0 °F) |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

**9.2 Other safety information**

| | |
|---|---|
| Surface tension | 23.2 mN/m at 20.0 °C (68.0 °F) |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**
Vapours may form explosive mixture with air.

**10.4 Conditions to avoid**
Heat, flames and sparks.

**10.5 Incompatible materials**
Bases, Oxidizing agents, Reducing agents, Acetone reacts violently with phosphorous oxychloride.

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

LD50 Oral - Rat - 5,800 mg/kg
Remarks: Behavioral:Altered sleep time (including change in righting reflex). Behavioral:Tremor. Behavioral:Headache. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LC50 Inhalation - Rat - 8 h - 50,100 mg/m3
Remarks: Drowsiness Dizziness Unconsciousness

LD50 Dermal - Guinea pig - 7,426 mg/kg

No data available

**Skin corrosion/irritation**

Skin - Rabbit
Result: Mild skin irritation - 24 h

**Serious eye damage/eye irritation**

Eyes - Rabbit
Result: Eye irritation - 24 h

**Respiratory or skin sensitisation**

- Guinea pig
Result: Does not cause skin sensitisation.

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

| | |
|---|---|
| IARC: | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| NTP: | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. |

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: Not available

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

Kidney - Irregularities - Based on Human Evidence

Skin - Dermatitis - Based on Human Evidence
Kidney - Irregularities - Based on Human Evidence
Skin - Dermatitis - Based on Human Evidence

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | LC50 - Oncorhynchus mykiss (rainbow trout) - 5,540 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | LC50 - Daphnia magna (Water flea) - 8,800 mg/l - 48 h |
| Toxicity to algae | Remarks: No data available |

12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | Result: 91 % - Readily biodegradable.<br>(OECD Test Guideline 301B) |

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

No data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**DOT (US)**

UN number: 1090 Class: 3 Packing group: II
Proper shipping name: Acetone
Reportable Quantity (RQ): 5000 lbs
Poison Inhalation Hazard: No

**IMDG**

UN number: 1090 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: ACETONE

**IATA**

UN number: 1090 Class: 3 Packing group: II
Proper shipping name: Acetone

## 15. REGULATORY INFORMATION

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetone | 67-64-1 | 1993-02-16 |

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetone | 67-64-1 | 1993-02-16 |

**New Jersey Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Acetone | 67-64-1 | 1993-02-16 |

**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

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

| | |
|---|---|
| Eye Irrit. | Eye irritation |
| Flam. Liq. | Flammable liquids |
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| STOT SE | Specific target organ toxicity - single exposure |

Further information
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**Preparation Information**
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Product Safety – Americas Region
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