1. Identification

Product Name: Acetone

Cat No.: A9-4; A9-20; A9-200; A11-1; A11-4; A11-20; A11-200; A11S-4; A13-20; A13-200; A16F-1GAL; A16P-1GAL; A16P-4; A16S-4; A16S-20; A18-1; A18-4; A18-20; A18-20LC; A18-200; A18-200LC; A18-500; A18CU1300; A18FB-19; A18FB-50; A18FB-115; A18FB-200; A18P-4; A18POP-19; A18POPB-50; A18RB-19; A18RB-50; A18RB-115; A18RB-200; A18RS-28; A18RS-50; A18RS-115; A18RS-200; A18S-4; A18SK-4; A18SS-19; A18SS-28; A18SS-50; A18SS-115; A18SS-200; A19-1; A19-4; A19RS-115; A19RS-200; A40-4; A928-4; A929-1; A929-4; A929-4LC; A929RS-19; A929RS-50; A929RS-200; A929SK-4; A929SS-28; A929SS-50; A929SS-115; A929SS-200; A946-4; A946-4LC; A946FB-200; A946RB-19; A946RB-50; A946RB-115; A946RB-200; A949-1; A949-4; A949-4LC; A949CU-50; A949N-119; A949N-219; A949POP-19; A949RS-28; A949RS-50; A949RS-115; A949SK-1; A949SK-4; A949SS-19; A949SS-28; A949SS-50; A949SS-115; A949SS-200; BP2403-1; BP2403-4; BP2403-20; BP2403-RS200; BP2404-1; BP2404-4; BP2404-SK1; BP2404-SK4; HC300-1GAL; S70091; 22050131; 22050295; XXA9ET200LI; NC2396838

CAS No: 67-64-1

Synonyms: 2-Propanone; Dimethyl ketone; (Certified ACS, HPLC, OPTIMA, Histological, Spectranalyzed, NF/FCC/EP, Pesticide, Electronic, GC Resolv, SAFE-COTE)

Recommended Use: Laboratory chemicals.

Uses advised against: Food, drug, pesticide or biocidal product use.

2. Hazard(s) identification

Classification:
Acetone

Revision Date 13-Oct-2023

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Label Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal Word</strong></td>
</tr>
<tr>
<td>Danger</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hazard Statements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly flammable liquid and vapor</td>
</tr>
<tr>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>May cause drowsiness or dizziness</td>
</tr>
<tr>
<td>May cause damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Precautionary Statements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevention</strong></td>
</tr>
<tr>
<td>Wash face, hands and any exposed skin thoroughly after handling</td>
</tr>
<tr>
<td>Do not breathe dust/fume/gas/mist/vapors/spray</td>
</tr>
<tr>
<td>Use only outdoors or in a well-ventilated area</td>
</tr>
<tr>
<td>Keep away from heat/sparks/open flames/hot surfaces. - No smoking</td>
</tr>
<tr>
<td>Keep container tightly closed</td>
</tr>
<tr>
<td>Ground/bond container and receiving equipment</td>
</tr>
<tr>
<td>Use explosion-proof electrical/ventilating/lighting equipment</td>
</tr>
<tr>
<td>Use only non-sparking tools</td>
</tr>
<tr>
<td>Take precautionary measures against static discharge</td>
</tr>
<tr>
<td>Wear protective gloves/protective clothing/eye protection/face protection</td>
</tr>
<tr>
<td>Keep cool</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Get medical attention/advice if you feel unwell</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Inhalation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing</td>
</tr>
<tr>
<td>Call a POISON CENTER or doctor/physician if you feel unwell</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Skin</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Eyes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</td>
</tr>
<tr>
<td>If eye irritation persists: Get medical advice/attention</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fire</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>In case of fire: Use CO2, dry chemical, or foam for extinction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Storage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Store in a well-ventilated place. Keep container tightly closed</td>
</tr>
<tr>
<td>Store locked up</td>
</tr>
</tbody>
</table>

| **Disposal** |
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects
Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media
Water may be ineffective

Flash Point
-20 °C / -4 °F

Method -
CC (closed cup)

Autoignition Temperature
465 °C / 869 °F

Explosion Limits
Upper 12.8 vol %
Lower 2.5 vol %

Oxidizing Properties
Not oxidising

Specific Hazards Arising from the Chemical
Flammable. Risk of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal Precautions**

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Should not be released into the environment.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

### 7. Handling and storage

**Handling**

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

**Storage.**


### 8. Exposure controls / personal protection

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>TWA: 250 ppm STEL: 500 ppm</td>
<td>(Vacated) TWA: 750 ppm (Vacated) STEL: 2400 mg/m³ (Vacated) STEL: 1000 ppm TWA: 1000 ppm TWA: 2400 mg/m³</td>
<td>IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³</td>
<td>TWA: 500 ppm STEL: 750 ppm</td>
</tr>
</tbody>
</table>

**Legend**

*ACGIH* - American Conference of Governmental Industrial Hygienists
*OSHA* - Occupational Safety and Health Administration
*NIOSH* - National Institute for Occupational Safety and Health

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment.

**Personal Protective Equipment**

**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard
Acetone

9. Physical and chemical properties

- Physical State: Liquid
- Appearance: Colorless
- Odor: sweet
- Odor Threshold: 19.8 ppm
- pH: 7
- Melting Point/Range: -95 °C / -139 °F
- Boiling Point/Range: 56 °C / 132.8 °F
- Flash Point: -20 °C / -4 °F (Method - CC (closed cup))
- Evaporation Rate: 5.6 (Butyl Acetate = 1.0)
- Flammability (solid, gas): Not applicable
- Flammability or explosive limits:
  - Upper: 12.8 vol %
  - Lower: 2.5 vol %
- Vapor Pressure: 247 mbar @ 20 °C
- Vapor Density: 2.0
- Specific Gravity: 0.790
- Solubility: Soluble in water
- Partition coefficient; n-octanol/water: No data available
- Autoignition Temperature: 465 °C / 869 °F
- Decomposition Temperature: > 4°C
- Viscosity: 0.32 mPa.s @ 20 °C
- Molecular Formula: C3 H6 O
- Molecular Weight: 58.08
- VOC Content(%): 100
- Refractive index: 1.358 - 1.359

10. Stability and reactivity

- Reactive Hazard: None known, based on information available
- Stability: Stable under normal conditions.
- Incompatible Materials: Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines
- Hazardous Decomposition Products: Carbon monoxide (CO), Carbon dioxide (CO2), Formaldehyde, Methanol
- Hazardous Polymerization: Hazardous polymerization does not occur.
- Hazardous Reactions: None under normal processing.

11. Toxicological information

Acute Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
</table>
| EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: low boiling organic solvent. Type AX. Brown. conforming to EN371.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.
Acetone

**Toxicologically Synergistic Products**

- Carbon tetrachloride; Chloroform; Trichloroethylene; Bromodichloromethane; Dibromochloromethane; N-nitrosodimethylamine; 1,1,2-Trichloroethane; Styrene; Acetonitrile, 2,5-Hexanediol; Ethanol; 1,2-Dichlorobenzene

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

- Irritation: Irritating to eyes
- Sensitization: No information available
- Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**

No information available

**Reproductive Effects**

No information available.

**Developmental Effects**

No information available.

**Teratogenicity**

No information available.

**STOT - single exposure**

Central nervous system (CNS)

**STOT - repeated exposure**

None known

**Aspiration hazard**

No information available

**Symptoms / effects, both acute and delayed**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting:

May cause pulmonary edema

**Endocrine Disruptor Information**

No information available

**Other Adverse Effects**

The toxicological properties have not been fully investigated.

---

**12. Ecological information**

**Ecotoxicity**

- **Freshwater Algae**
  - Acetone: NOEC = 430 mg/L (algae; 96h)
- **Freshwater Fish**
  - Oncorhynchus mykiss: LC50 = 5540 mg/L/96h
  - Alburnus alburnus: LC50 = 11000 mg/L/96h
  - Leuciscus idus: LC50 = 11300 mg/L/48h
  - Salmo gairdneri: LC50 = 6100 mg/L/24h
- **Microtox**
  - EC50 = 14500 mg/L/15 min
- **Water Flea**
  - EC50 = 8800 mg/L/48h
  - EC50 = 12700 mg/L/48h
  - EC50 = 12600 mg/L/48h

**Persistence and Degradability**

Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation**

No information available.

**Mobility**

Will likely be mobile in the environment due to its volatility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>-0.24</td>
</tr>
</tbody>
</table>

---

**13. Disposal considerations**

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
### 14. Transport information

**DOT**
- **UN-No**: UN1090
- **Proper Shipping Name**: ACETONE
- **Hazard Class**: 3
- **Packing Group**: II

**TDG**
- **UN-No**: UN1090
- **Proper Shipping Name**: ACETONE
- **Hazard Class**: 3
- **Packing Group**: II

**IATA**
- **UN-No**: UN1090
- **Proper Shipping Name**: ACETONE
- **Hazard Class**: 3
- **Packing Group**: II

**IMDG/IMO**
- **UN-No**: UN1090
- **Proper Shipping Name**: ACETONE
- **Hazard Class**: 3
- **Packing Group**: II

### 15. Regulatory information

**United States of America Inventory**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
- **TSCA**: US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
- X - Listed
- '-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b) - Notices of Export**

Not applicable

**International Inventories**

- Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>X</td>
<td>-</td>
<td>200-662-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-29367</td>
</tr>
</tbody>
</table>

**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**U.S. Federal Regulations**

- **SARA 313**
  - Not applicable

- **SARA 311/312 Hazard Categories**
  - See section 2 for more information

- **CWA (Clean Water Act)**
  - Not applicable
Clean Air Act
Not applicable

OSHA - Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): Y
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade
Serious risk, Grade 3

Authorisation/Restrictions according to EU REACH

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>-</td>
<td>Use restricted. See item 75. (see link for restriction details)</td>
<td>-</td>
</tr>
</tbody>
</table>

REACH links

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>Listed</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable
Other International Regulations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Annex I - Y42</td>
</tr>
</tbody>
</table>

16. Other information

Prepared By  
Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

Creation Date  
28-Apr-2009

Revision Date  
13-Oct-2023

Print Date  
13-Oct-2023

Revision Summary  
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer  
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS