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; A18POP-B-50; A18RB-19; A18RB-50; A18RB-115; A18RB-200; A18RS-28; A18RS-50; A18RS-115; A18RS-200; A18S-4; A18S-19; A18SS-28; A18SS-50; A18SS-115; A18SS-200; 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

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.

Details of the supplier of the safety data sheet

Company
Importer/Distributor: Fisher Scientific
112 Colonnade Road.
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Manufacturer: Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number: CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887
Classification

WHMIS 2015 Classification
Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<table>
<thead>
<tr>
<th>Flammable liquids</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Central nervous system (CNS).</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Target Organs - Kidney, Liver, spleen, Blood.</td>
<td></td>
</tr>
<tr>
<td>Health Hazards Not Otherwise Classified</td>
<td>Category 1</td>
</tr>
<tr>
<td>Prolonged or repeated contact may dry skin and cause irritation or cracking</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness and dizziness
May cause damage to organs through prolonged or repeated exposure
Prolonged or repeated contact may dry skin and cause irritation or cracking

Precautionary Statements
Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharges
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Response
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ 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
Call a POISON CENTER/ doctor if you feel unwell
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Disposal
Dispose of contents/container to an approved waste disposal plant
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/effects 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 Carbon monoxide (CO), Carbon dioxide (CO₂), Formaldehyde. Methanol.

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
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

<table>
<thead>
<tr>
<th>Component</th>
<th>Alberta TWA: 500 ppm TWA: 1200 mg/m³ STEL: 750 ppm STEL: 1800 mg/m³</th>
<th>British Columbia TWA: 250 ppm STEL: 500 ppm</th>
<th>Ontario TWAEV TWA: 500 ppm STEL: 750 ppm</th>
<th>Quebec TWA: 500 ppm TWA: 1190 mg/m³ STEL: 1000 ppm STEL: 2380 mg/m³</th>
<th>ACGIH TLV TWA: 250 ppm STEL: 500 ppm</th>
<th>OSHA PEL (Vacated) TWA: 750 ppm TWA: 1800 mg/m³ (Vacated) STEL: 2400 mg/m³ (Vacated) STEL: 1000 ppm TWA: 1000 ppm TWA: 2400 mg/m³</th>
<th>NIOSH IDLH IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: 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. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection
Goggles

Hand Protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl rubber</td>
<td>&gt; 480 minutes</td>
<td>0.5 mm</td>
<td>As tested under EN374-3</td>
</tr>
</tbody>
</table>
Inspect gloves before use. Observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) Gloves are suitable for the task: Chemical compatibility, dexterity, operational conditions, user susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Gloves with care avoiding skin contamination.

Respiratory Protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

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

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**
Do not allow material to contaminate ground water system.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

**9. Physical and chemical properties**

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

**10. Stability and reactivity**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Hazard</td>
<td>None known, based on information available</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.</td>
</tr>
</tbody>
</table>
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 (mg/kg)</th>
<th>LD50 Dermal (mg/kg)</th>
<th>LC50 Inhalation (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5800</td>
<td>&gt; 15800</td>
<td>76</td>
</tr>
</tbody>
</table>

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

### 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
Kidney Liver spleen Blood

### 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

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>NOEC = 430 mg/l (algae; 96 h)</td>
<td>Oncorhynchus mykiss: LC50 = 5540 mg/l 96h</td>
<td>EC50 = 14500 mg/L/15 min</td>
<td>EC50 = 8800 mg/L/48h</td>
</tr>
<tr>
<td></td>
<td>Alburnus alburnus: LC50 = 11000 mg/l 96h</td>
<td></td>
<td></td>
<td>EC50 = 12700 mg/L/48h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC50 = 12600 mg/L/48h</td>
</tr>
</tbody>
</table>
Acetone

Leuciscus idus: LC50 = 11300 mg/L/48h  
Salmo gairdneri: LC50 = 6100 mg/L/24h

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone - 67-64-1</td>
<td>U002</td>
<td>-</td>
</tr>
</tbody>
</table>

**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**

**International Inventories**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>ACT</td>
<td>200-662-2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IECS</th>
<th>KECL</th>
<th>ENCS</th>
<th>ISHL</th>
<th>TCSI</th>
<th>AICS</th>
<th>NZIoC</th>
<th>PICCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>X</td>
<td>KE-29367</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:

X - Listed  
- - Not Listed  
KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
Acetone

IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

<table>
<thead>
<tr>
<th>Component</th>
<th>Canada - National Pollutant Release Inventory (NPRI)</th>
<th>Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances</th>
<th>Canada’s Chemicals Management Plan (CEPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>Part 4 Substance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other International Regulations

Authorisation/Restrictions according to EU REACH

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


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>

<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-April-2009
Revision Date 24-December-2021
Print Date 24-December-2021
Revision Summary
This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

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