

## SAFETY DATA SHEET

Creation Date 28-Apr-2009

Revision Date 17-Jan-2018

Revision Number 6

### 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; 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** Not for food, drug, pesticide or biocidal product use

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

**Company**  
Fisher Scientific  
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

### 2. Hazard(s) identification

#### **Classification**

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

Flammable liquids

Category 2

|                                                      |            |
|------------------------------------------------------|------------|
| Serious Eye Damage/Eye Irritation                    | Category 2 |
| Specific target organ toxicity (single exposure)     | Category 3 |
| Target Organs - Central nervous system (CNS).        |            |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Kidney, Liver, spleen, Blood.        |            |

**Label Elements****Signal Word**

Danger

**Hazard Statements**

Highly flammable liquid and vapor

Causes serious eye irritation

May cause drowsiness or dizziness

May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - 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 discharge

Wear protective gloves/protective clothing/eye protection/face protection

Keep cool

**Response**

Get medical attention/advice if you feel unwell

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Fire**In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction**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

**Hazards not otherwise classified (HNOC)**

Repeated exposure may cause skin dryness or cracking

### 3. Composition/Information on Ingredients

| Component | CAS-No  | Weight % |
|-----------|---------|----------|
| Acetone   | 67-64-1 | >95      |

### 4. First-aid measures

|                                            |                                                                                                                                                                                                                                                                  |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                      | If symptoms persist, call a physician.                                                                                                                                                                                                                           |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                                                                                                                                  |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.                                                                                                                                                |
| <b>Inhalation</b>                          | Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.                                                                                                                                                       |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water.                                                                                                                                                                                                     |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. May cause pulmonary edema: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                            |

### 5. Fire-fighting measures

|                                         |                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray. |
| <b>Unsuitable Extinguishing Media</b>   | Water may be ineffective                                                                                                          |
| <b>Flash Point</b>                      | -20 °C / -4 °F                                                                                                                    |
| <b>Method -</b>                         | Closed cup                                                                                                                        |
| <b>Autoignition Temperature</b>         | 465 °C / 869 °F                                                                                                                   |
| <b>Explosion Limits</b>                 |                                                                                                                                   |
| <b>Upper</b>                            | 12.8 vol %                                                                                                                        |
| <b>Lower</b>                            | 2.5 vol %                                                                                                                         |
| <b>Oxidizing Properties</b>             | Not oxidising                                                                                                                     |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                                                                          |
| <b>Sensitivity to Static Discharge</b>  | No information available                                                                                                          |

#### 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 (CO<sub>2</sub>) 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

**Health**  
2

**Flammability**  
3

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                             |                                                                                                                                                                               |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.                        |
| <b>Environmental Precautions</b>            | Should not be released into the environment.                                                                                                                                  |
| <b>Methods for Containment and Clean Up</b> | 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

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. 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. |
| <b>Storage</b>  | Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.                                                                                                                                                                                                                                                                              |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component | ACGIH TLV                     | OSHA PEL                                                                                                                                                                              | NIOSH IDLH                                                   | Mexico OEL (TWA)                                                                               |
|-----------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Acetone   | TWA: 250 ppm<br>STEL: 500 ppm | (Vacated) TWA: 750 ppm<br>(Vacated) TWA: 1800 mg/m <sup>3</sup><br>(Vacated) STEL: 2400 mg/m <sup>3</sup><br>(Vacated) STEL: 1000 ppm<br>TWA: 1000 ppm<br>TWA: 2400 mg/m <sup>3</sup> | IDLH: 2500 ppm<br>TWA: 250 ppm<br>TWA: 590 mg/m <sup>3</sup> | TWA: 1000 ppm<br>TWA: 2400 mg/m <sup>3</sup><br>STEL: 1260 ppm<br>STEL: 3000 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

|                             |                                                                                                                                                                                                                  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Measures</b> | 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

|                                 |                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face Protection</b>      | 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.                                                                       |
| <b>Skin and body protection</b> | Long sleeved clothing.                                                                                                                                                                                                                            |
| <b>Respiratory Protection</b>   | 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. |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.                                                                                                                                                                            |

## 9. Physical and chemical properties

|                       |           |
|-----------------------|-----------|
| <b>Physical State</b> | Liquid    |
| <b>Appearance</b>     | 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 -                               | 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                     |
| Refractive index                       | 1.358 - 1.359             |

## 10. Stability and reactivity

|                                  |                                                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                                                                             |
| Stability                        | Stable under normal conditions.                                                                                        |
| Conditions to Avoid              | Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.      |
| Incompatible Materials           | Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Formaldehyde, Methanol                                        |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                                                                               |
| Hazardous Reactions              | None under normal processing.                                                                                          |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component | LD50 Oral          | LD50 Dermal                                  | LC50 Inhalation     |
|-----------|--------------------|----------------------------------------------|---------------------|
| Acetone   | 5800 mg/kg ( Rat ) | > 15800 mg/kg (rabbit)<br>> 7400 mg/kg (rat) | 76 mg/l, 4 h, (rat) |

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

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

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

| Component | CAS-No  | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------|---------|------------|------------|------------|------------|------------|
| Acetone   | 67-64-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

**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: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

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

| Component | log Pow |
|-----------|---------|
| Acetone   | -0.24   |

## 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.

| Component         | RCRA - U Series Wastes | RCRA - P Series Wastes |
|-------------------|------------------------|------------------------|
| Acetone - 67-64-1 | U002                   | -                      |

## 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

All of the components in the product are on the following Inventory lists: X = listed

**International Inventories**

| Component | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-----------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Acetone   | X    | X   | -    | 200-662-2 | -      |     | X     | X    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**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)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------|--------------------------|----------------|
| Acetone   | 5000 lb                  | -              |

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

**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
| Acetone   | X             | X          | X            | -        | X            |

**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 contains the following DHS chemicals:

| Component | DHS Chemical Facility Anti-Terrorism Standard |
|-----------|-----------------------------------------------|
| Acetone   | 2000 lb STQ                                   |

**Other International Regulations**

Mexico - Grade Serious risk, Grade 3

**16. Other information**

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

**Creation Date** 28-Apr-2009

**Revision Date** 17-Jan-2018

**Print Date** 17-Jan-2018

**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**