

### Part of Thermo Fisher Scientific

### SAFETY DATA SHEET

Creation Date 28-Apr-2009 Revision Date 12-Mar-2014 Revision Number 1

#### 1. Identification

Product Name Acetone

Cat No.: A9-4; A9-20; A9-200; A11-1; A11-4; A11-20; A11-200; A11S-4;

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; 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; A949SS-115; 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

**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 No Information available

Details of the supplier of the safety data sheet

Company Emergency Telephone Number

Fisher Scientific CHEMTREC®, Inside the USA: 800-424-9300
One Reagent Lane CHEMTREC®, Outside the USA: 001-703-527-3887

Fair Lawn, NJ 07410 Tel: (201) 796-7100

### 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)

Target Organs - Kidney, Liver, spleen, Blood.

Category 2

### 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 CO2, 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

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

Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if

symptoms occur.

**Ingestion** Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects Breathing difficulties. 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

Treat symptomatically

### 5. Fire-fighting measures

Suitable Extinguishing Media CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Water spray. Cool closed containers

exposed to fire with water spray.

Unsuitable Extinguishing Media Water may be ineffective

Flash Point -20 °C / -4 °F Method - Closed cup

**Autoignition Temperature** 

**Explosion Limits** 

Notes to Physician

465 °C / 869 °F

Upper 12.8 vol % Lower 2.5 vol % Oxidizing Properties Not oxidising

Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge 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 (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. Thermal decomposition can lead to release of irritating gases and vapors.

<u>NFPA</u>

HealthFlammabilityInstabilityPhysical hazards130N/A

### 6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Remove all sources of

ignition. Take precautionary measures against static discharges. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and inhalation of vapors.

**Environmental Precautions** Should not be released into the environment.

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Up

Methods for Containment and Clean Remove all sources of ignition. Take precautionary measures against static discharges. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

### 7. Handling and storage

#### Handling

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

#### Storage

Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

### 8. Exposure controls / personal protection

#### **Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone	TWA: 500 ppm	(Vacated) TWA: 750 ppm	IDLH: 2500 ppm
	STEL: 750 ppm	(Vacated) TWA: 1800 mg/m <sup>3</sup>	TWA: 250 ppm
		(Vacated) STEL: 2400 mg/m <sup>3</sup>	TWA: 590 mg/m <sup>3</sup>
		(Vacated) STEL: 1000 ppm	_
		TWA: 1000 ppm	
		TWA: 2400 mg/m <sup>3</sup>	

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Acetone	TWA: 500 ppm	TWA: 1000 ppm	TWA: 500 ppm
	TWA: 1190 mg/m <sup>3</sup>	TWA: 2400 mg/m <sup>3</sup>	STEL: 750 ppm
	STEL: 1000 ppm	STEL: 1260 ppm	
	STEL: 2380 mg/m <sup>3</sup>	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

# **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 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.

**Hygiene Measures** 

Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

**Physical State Appearance** Odor

Liquid Colorless sweet

Odor Threshold 19.8 ppm

 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 Relative Density 0.790

SolubilitySoluble in waterPartition coefficient; n-octanol/waterNo data availableAutoignition Temperature465 °C / 869 °F

Autoignition Temperature 465 °C / Decomposition Temperature 54°C

Viscosity 0.32 mPa.s @ 20 °C

Molecular FormulaC3 H6 OMolecular Weight58.08Refractive index1.358 - 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<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)	76 mg/l, 4 h, (rat)
		> 7400 mg/kg (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.

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	Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
I	Acetone	67-64-1	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

delayed

Symptoms / effects,both acute and 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 Neurotoxic effects have occurred in experimental animals.

### 12. Ecological information

**Ecotoxicity** 

	Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ī	Acetone	NOEC = 430 mg/l (algae; 96	Oncorhynchus mykiss: LC50	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h
1		h)	= 5540 mg/l 96h		EC50 = 12700 mg/L/48h
1			Alburnus alburnus: LC50 =		EC50 = 12600 mg/L/48h
1			11000 mg/l 96h		
1			Leuciscus idus: LC50 =		
1			11300 mg/L/48h		
-			Salmo gairdneri: LC50 =		
1			6100 mg/L/24h		

Persistence and Degradability **Bioaccumulation/ Accumulation**  Persistence is unlikely based on information available.

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

UN1090 **UN-No Proper Shipping Name ACETONE** 

**Hazard Class Packing Group** Ш

**TDG** 

UN1090 **Proper Shipping Name ACETONE** 

Hazard Class 3
Packing Group ||

**IATA** 

UN-No UN1090 Proper Shipping Name UN1090 ACETONE

Hazard Class 3
Packing Group ||

IMDG/IMO

UN-No UN1090 Proper Shipping Name ACETONE

Hazard Class 3
Packing Group ||

### 15. Regulatory information

#### International Inventories

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

#### 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 Hazardous Categorization

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No

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

#### State Right-to-Know

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

#### Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class B2 Flammable liquid

D2B Toxic materials



### 16. Other information

Prepared By Regulatory Affairs

Thermo Fisher Scientific

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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 on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of SDS**