

SAFETY DATA SHEET

Creation Date 28-Apr-2009

Revision Date 18-Dec-2025

Revision Number 11

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

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; 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.

Details of the supplier of the safety data sheet

Company

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

2. Hazard(s) identification

Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

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).	

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor

Causes serious eye irritation

May cause drowsiness or dizziness



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep container tightly closed

Ground and bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

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

Keep cool

Take action to prevent static discharges

Use non-sparking tools

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor if you feel unwell

Skin

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

Hazards not otherwise classified (HNOC)

Repeated exposure may cause skin dryness or cracking

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

3. Composition/information on Ingredients

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

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	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
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO ₂), 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
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.

NFPA

Health
2

Flammability
3

Instability
0

Physical hazards
N/A

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.** Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Strong reducing agents. Strong bases. Peroxides. Halogenated compounds. Alkali metals. Amines.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m ³ (Vacated) STEL: 2400 mg/m ³ (Vacated) STEL: 1000 ppm TWA: 1000 ppm TWA: 2400 mg/m ³	IDLH: 2500 ppm REL = 250 ppm (TWA) REL = 590 mg/m ³ (TWA)	TWA: 500 ppm STEL: 750 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH: 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 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.

9. Physical and chemical properties

Appearance

Physical State	Liquid
Color	Colorless
Odor	sweet
Odor Threshold	19.8 ppm

Property

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>• Method</u>
Melting Point/Range	-95 °C / -139 °F		
Softening Point	No data available		
Boiling Point/Range	56 °C / 132.8 °F		
Flash Point	-20 °C / -4 °F		
Flammability (liquid)	Highly flammable		Method - CC (closed cup)
Flammability (solid,gas)	Not applicable		On basis of test data
Explosion Limits	Lower 2.1 vol% Upper 13 vol%		Liquid
Autoignition Temperature	465 °C / 869 °F		
Decomposition Temperature	> 4°C		
pH	7		
Viscosity	0.32 mPa.s @ 20 °C		
Water Solubility	Soluble		
Solubility in other solvents	No information available		
Partition Coefficient (n-octanol/water)			
Component	log Pow		
Acetone	-0.24		
Vapor Pressure	247 mbar @ 20 °C		
Density / Specific Gravity	0.790		
Bulk Density	Not applicable		Liquid
Vapor Density	2.0		(Air = 1.0)
Particle characteristics	Not applicable (liquid)		

Other Information

Molecular Formula	C3 H6 O
Molecular Weight	58.08
Explosive Properties	Not explosive Vapors may form explosive mixtures with air
Oxidizing Properties	Not oxidising
Evaporation Rate	5.6 (Butyl Acetate = 1.0)
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 ₂), Formaldehyde, Methanol

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation Avoid breathing vapors or mists.
Ingestion May be harmful if swallowed.
Eyes Avoid contact with eyes. Irritating to eyes. Vapor may cause irritation.
Skin Avoid contact with skin. May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis.

Toxicology data for the components

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

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

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Category 2
Test method OECD 405
Test species rabbit
Observation end point Irritating to eyes

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Acetone 67-64-1 (>95)	Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Acetone 67-64-1 (>95)	OECD Test Guideline 471 AMES test	in vivo	negative
	OECD Test Guideline 476 Mammalian Gene cell mutation	in vitro	negative

(f) carcinogenicity; Based on available data, the classification criteria are not met
 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

(g) reproductive toxicity; Based on available data, the classification criteria are not met

- (h) STOT-single exposure; Category 3
Results / Target organs Central nervous system (CNS).
- (i) STOT-repeated exposure; Based on available data, the classification criteria are not met
Test method OECD Test No. 408
Test species / Duration Rat / 90 days
Study result NOAEL = 900 mg/kg
Route of exposure Oral
Target Organs None known.
- (j) aspiration hazard; Based on available data, the classification criteria are not met
- 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.
- Other Adverse Effects** The toxicological properties have not been fully investigated.
- Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

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 Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	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.

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
<u>TDG</u>	
UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II
<u>IATA</u>	
UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II
<u>IMDG/IMO</u>	
UN-No	UN1090
Proper Shipping Name	ACETONE
Hazard Class	3
Packing Group	II

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Acetone	67-64-1	X	ACTIVE	-

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

China, X = listed, Australia, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (KECL), China (IECSC), Japan (ENCS), Philippines (PICCS), Taiwan (TCSI), Japan (ISHL), New Zealand (NZIoC), Japan (ISHL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Acetone	67-64-1	X	-	200-662-2	X	X	X	X	X	KE-29367

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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Acetone	5000 lb	-	5000 lb 2270 kg

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 does not contain any DHS chemicals.

Other International Regulations**Mexico - Grade**

Serious risk, Grade 3

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Acetone	67-64-1	-	Use restricted. See entry 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Acetone	67-64-1	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Acetone	67-64-1	Not applicable	Not applicable	Not applicable	Annex I - Y42

16. Other Information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
Creation Date	28-Apr-2009
Revision Date	18-Dec-2025
Print Date	18-Dec-2025
Revision Summary	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

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