

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the CPR)

Revision Date 05/20/2017

Version 1.1

SECTION 1. Identification

Product Identifier

Product number AX0120
Product name Acetone GR ACS
CAS-No. 67-64-1

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reagent for analysis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,
United States of America | General Inquiries: +1-978-715-4321 |
Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Flammable liquid, Category 2, H225
Eye irritation, Category 2A, H319
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Danger

Hazard Statements

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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Precautionary Statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	CH ₃ COCH ₃	C ₃ H ₆ O (Hill)
Molar mass	58.08 g/mol	

Hazardous ingredients

Chemical name (Concentration)

CAS-No.

acetone (>= 90 % - <= 100 %)

67-64-1

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Irritant effects, Drowsiness, Dizziness, narcosis, Nausea, Vomiting, Stomach/intestinal disorders, Headache, somnolence, Salivation, Coma
Risk of corneal clouding.
Drying-out effect resulting in rough and chapped skin.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Remove container from danger zone and cool with water.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains. Risk of explosion.

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Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>acetone 67-64-1</i>			
CAD AB OEL	Time Weighted Average (TWA):	500 ppm 1,200 mg/m ³	
	Short Term Exposure Limit (STEL):	750 ppm 1,800 mg/m ³	
CAD BC OEL	Time Weighted Average (TWA):	250 ppm	
	Short Term Exposure Limit (STEL):	500 ppm	
CAD ON OEL	Time Weighted Average (TWA):	500 ppm	
	Short Term Exposure Limit (STEL):	750 ppm	
OEL (QUE)	Short Term Exposure Limit (STEL):	1,000 ppm 2,380 mg/m ³	
	Time Weighted Average (TWA):	500 ppm 1,190 mg/m ³	
CAD MB OEL	Time Weighted Average (TWA):	250 ppm	
	Short Term Exposure Limit (STEL):	500 ppm	

Engineering measures

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0.7 mm
Break through time:	> 480 min

splash contact:

Glove material:	natural latex
Glove thickness:	0.6 mm
Break through time:	> 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 706 Lapren® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapors/aerosols are generated.

Recommended Filter type: Filter AX (EN 371)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	fruity
Odor Threshold	0.1 - 662.5 ppm

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pH	5 - 6 at 395 g/l 68 °F (20 °C)
Melting point	-139.7 °F (-95.4 °C)
Boiling point/boiling range	133.2 °F (56.2 °C) at 1,013 hPa
Flash point	< -4 °F (< -20 °C) Method: DIN 51755 Part 1
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2.6 %(V)
Upper explosion limit	12.8 %(V)
Vapor pressure	233 hPa at 68 °F (20 °C)
Relative vapor density	2.01
Density	0.79 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: -0.24 (experimental) Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0.32 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	869 °F (465 °C) DIN 51794

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Conductivity
0.01 $\mu\text{S}/\text{cm}$
at 68 °F(20 °C)

SECTION 10. Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

Sensitivity to light
Sensitive to air.

Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapors with:

chromosulfuric acid, chromyl chloride, ethanolamine, Fluorine, Strong oxidizing agents, strong reducing agents, Nitric acid, chromium(VI) oxide

Risk of explosion with:

nonmetallic oxyhalides, halogen-halogen compounds, Chloroform, nitrating acid, nitrosyl compounds, hydrogen peroxide, halogen oxides, organic nitro compounds, peroxy compounds

Exothermic reaction with:

Bromine, Alkali metals, alkali hydroxides, Halogenated hydrocarbon, Sulfur dichloride, phosphorous oxichloride

Conditions to avoid

Warming.

Incompatible materials

rubber, various plastics

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Inhalation, Eye contact, Skin contact

Acute oral toxicity

LD50 Rat: 5,800 mg/kg (ECHA)

Symptoms: Stomach/intestinal disorders, Risk of aspiration upon vomiting., Pulmonary failure possible after aspiration of vomit.

Acute inhalation toxicity

LC50 Rat: 76 mg/l; 4 h ; vapor
(Lit.)

Symptoms: mucosal irritations
absorption

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Acute dermal toxicity

LD50 Rabbit: 20,000 mg/kg
(IUCLID)

Skin irritation

Rabbit
Result: No irritation
(External MSDS)

Repeated exposure may cause skin dryness or cracking.

Eye irritation

Rabbit
Result: Eye irritation
(External MSDS)

Causes serious eye irritation.

Risk of corneal clouding.

Sensitization

Maximization Test Guinea pig
Result: negative

(ECHA)

Genotoxicity in vivo

Micronucleus test
Result: negative
(National Toxicology Program)

Genotoxicity in vitro

Mutagenicity (mammal cell test): chromosome aberration.
Result: negative
Method: OECD Test Guideline 473

Ames test

Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (IUCLID)

Specific target organ systemic toxicity - single exposure

May cause drowsiness or dizziness.
Target Organs: Central nervous system

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or

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	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

After absorption:

Headache, Salivation, Nausea, Vomiting, Dizziness, narcosis, Coma

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 5,540 mg/l; 96 h (Lit.)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 6,100 mg/l; 48 h (Lit.)

EC5 *E.sulcatum*: 28 mg/l; 72 h (maximum permissible toxic concentration) (Lit.)

Toxicity to algae

NOEC *M.aeruginosa*: 530 mg/l; 8 d

Analytical monitoring: no

DIN 38412 (maximum permissible toxic concentration) (IUCLID)

Toxicity to bacteria

EC50 activated sludge: 59 - 67.4 mg/l; 30 min (Lit.)

EC5 *Pseudomonas putida*: 1,700 mg/l; 16 h (maximum permissible toxic concentration) (IUCLID)

Persistence and degradability

Biodegradability

91 %; 28 d

(IUCLID)

Readily biodegradable.

Biochemical Oxygen Demand (BOD)

1,850 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

2,070 mg/g

(IUCLID)

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Theoretical oxygen demand (ThOD)
2,200 mg/g
(Lit.)

Bioaccumulative potential

Partition coefficient: n-octanol/water
log Pow: -0.24
(experimental)
Bioaccumulation is not expected. (Lit.)

Mobility in soil

No information available.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number UN 1090
Proper shipping name ACETONE
Class 3
Packing group II
Environmentally hazardous --

Air transport (IATA)

UN number UN 1090
Proper shipping name ACETONE
Class 3
Packing group II
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)

UN number UN 1090
Proper shipping name ACETONE
Class 3
Packing group II
Environmentally hazardous --
Special precautions for user yes
EmS F-E S-D

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SECTION 15. Regulatory information

United States of America

Canada

WHMIS Classification

B2 Flammable Liquid
D2B Toxic Material Causing Other Toxic Effects
Flammable Liquid, Eye irritant

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240 Ground/bond container and receiving equipment.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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