

**Material Safety Data Sheet**

acc. to OSHA and ANSI

Printing date 08/02/2009

Reviewed on 07/30/2009

**1 Identification of substance:****Product details:****Product name:** Acetone**Stock number:**

32451

19392

**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Emergency Phone: (978) 521-6300

CHEMTREC: (800) 424-9300

Web Site: [www.alfa.com](http://www.alfa.com)**Information Department:** Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

**2 Composition/Data on components:****Chemical characterization:****Description: (CAS#)**

Acetone (CAS# 67-64-1)

**Identification number(s):****EINECS Number:** 200-662-2**Index number:** 606-001-00-8**3 Hazards identification****Hazard description:**

Xi Irritant

F Highly flammable

**Information pertaining to particular dangers for man and environment**

R 11 Highly flammable.

R 36 Irritating to eyes.

R 66 Repeated exposure may cause skin dryness or cracking

R 67 Vapours may cause drowsiness and dizziness

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	3
REACTIVITY	1

Health (acute effects) = 1

Flammability = 3

Reactivity = 1

**GHS label elements****Danger**

2.6/2 - Highly flammable liquid and vapour.

**Warning**

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause drowsiness or dizziness.

**Prevention:**

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.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

(Contd. on page 2)

USA

**Material Safety Data Sheet**

acc. to OSHA and ANSI

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**Product name:** Acetone

(Contd. of page 1)

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

**Response:**

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

IF INHALED: Remove victim to fresh air and keep at rest in a position 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 or doctor/physician if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

**Storage:**

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

Store in a well-ventilated place. Keep cool.

Store locked up.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**4 First aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.**5 Fire fighting measures****Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents** Water with full jet.**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6 Accidental release measures****Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

**Measures for environmental protection:**

Dilute with plenty of water.

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Keep away from ignition sources.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

(Contd. on page 3)

- USA -

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Printing date 08/02/2009

Reviewed on 07/30/2009

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(Contd. of page 2)

**Information about protection against explosions and fires:**

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

**Storage****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**8 Exposure controls and personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:**

Acetone

ppm

ACGIH TLV	500; 750-STEL
	Not classified as a human carcinogen
Austria MAK	750
Belgium TWA	750; 1000-STEL
Denmark TWA	250
Finland TWA	500; 625-STEL
France VME	750
Germany MAK	500
Hungary TWA	600 mg/m <sup>3</sup> ; 1200 mg/m <sup>3</sup> -STEL
Japan OEL	200
Korea TLV	500; 750-STEL
Netherlands MAC-TGG	750
Norway TWA	125
Poland TWA	600 mg/m <sup>3</sup> ; 1800 mg/m <sup>3</sup> -STEL
Russia TWA	200; 200-STEL
Sweden NGV	250; 500-KTV
Switzerland MAK-W	500; 1000-STEL
United Kingdom TWA	750; 1500-STEL
USA PEL	1000

**Additional information:** No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

**Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respirator when high concentrations are present.

**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Acetone-like

**Change in condition**

<b>Melting point/Melting range:</b>	-94°C (-137°F)
<b>Boiling point/Boiling range:</b>	56°C (133°F)
<b>Sublimation temperature / start:</b>	Not determined

**Flash point:** -17°C (1°F)**Ignition temperature:** 465°C (869°F)

(Contd. on page 4)

- USA -

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**Product name:** Acetone

(Contd. of page 3)

<b>Decomposition temperature:</b>	Not determined
<b>Explosion limits:</b>	
Lower:	2.6 Vol %
Upper:	13 Vol %
<b>Vapor pressure at 20°C (68°F):</b>	247 hPa (185 mm Hg)
<b>Density at 20°C (68°F):</b>	0.791 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with Water:</b>	Fully miscible
<b>Viscosity:</b>	
dynamic at 20°C (68°F):	0.32 mPas

**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:** Oxidizing agents**Dangerous reactions**Reacts violently with nitric acid (HNO<sub>3</sub>).

No dangerous reactions known

**Dangerous products of decomposition:** Carbon monoxide and carbon dioxide**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	5800 mg/kg (rat)
Inhalative	LC50/8H	50100 mg/m <sup>3</sup> /8H (rat)
Irritation of skin	mild	500 mg/24H (rabbit)
Irritation of eyes	moderate	20 mg/24H (rabbit)

**Primary irritant effect:****on the skin:** Causes mild irritant effect.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

Acetone may cause narcosis in high concentration. It acts to dry and defat skin, causing irritation. Inhalation may cause headache and dizziness as well as irritation of the respiratory tract. Chronic exposure may cause liver and kidney injury.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:****General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations****Product:****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.

USA

(Contd. on page 5)

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Product name: Acetone

(Contd. of page 4)

**14 Transport information****DOT regulations:**

**Hazard class:** 3  
**Identification number:** UN1090  
**Packing group:** II  
**Hazardous substance:** 5000 lbs, 2270 kg  
**Proper shipping name (technical name):** ACETONE  
**Label:** 3

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** 3 (F1) Flammable liquids  
**Danger code (Kemler):** 33  
**UN-Number:** 1090  
**Packaging group:** II  
**Description of goods:** 1090 ACETONE

**Maritime transport IMDG:**

**IMDG Class:** 3  
**UN Number:** 1090  
**Label:** 3  
**Packaging group:** II  
**EMS Number:** F-E, S-D  
**Marine pollutant:** No  
**Proper shipping name:** ACETONE

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** 3  
**UN/ID Number:** 1090  
**Label:** 3  
**Packaging group:** II  
**Proper shipping name:** ACETONE

UN "Model Regulation": UN1090, ACETONE, 3, II

**15 Regulations****Product related hazard informations:****Hazard symbols:**

Xi Irritant

F Highly flammable

**Risk phrases:**

11 Highly flammable.

36 Irritating to eyes.

66 Repeated exposure may cause skin dryness or cracking

67 Vapours may cause drowsiness and dizziness

**Safety phrases:**

9 Keep container in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

(Contd. on page 6)

USA

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(Contd. of page 5)

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

**Information about limitation of use:** For use only by technically qualified individuals.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Zachariah Holt

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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