

Product name:	Diacetone alcohol
MSDS number:	28
Material number:	80028
Published date:	02/02/2006

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product: Diacetone alcohol
MSDS number: 28
Material number: 80028

Celanese Pte Ltd
111 Somerset Road
Singapore Power Building #02-02/03
Singapore 238164
Tel No: (65) 6733 1767

Transportation emergency phone numbers:
+ (65) 66639259 (Operations Room direct dial)
+ (65) 62656917 (Operations Room direct dial)
+ (65) 62650177 (Switchboard, ask for Operations Room)

or fax request to
+(65) 62644190 (Facsimile to Operations Room)
+(65) 62664696 (Facsimile to Operations Room)

or email to
opsroom@semco.psa.com.sg

or Call CHEMTREC 703 527 3887 (USA), collect calls accepted
"+" = International Dialing Access Code

2. Composition / Information on Ingredients

Component	CAS Number	Percent %	OSHA hazard category:
DIACETONE ALCOHOL	123-42-2	99	Hazardous

3. Hazards Identification

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Emergency Overview:

WARNING!

- Flammable liquid and vapor.
- Causes eye irritation.
- May cause respiratory tract irritation.

Product Description

Appearance: Clear, colorless, mobile liquid (can gradually turn yellow during storage).
Odor: Mild, characteristic "ketone" odor.

Potential health effects

Routes of exposure: Skin, eyes, inhalation, ingestion.

Immediate effects:

- Skin:** Essentially non-irritating. Prolonged or repeated contact may dry skin and cause irritation. Symptoms of exposure may include: Drying, cracking or inflammation of skin.
- Eyes:** Exposure to vapors and liquid Causes eye irritation. Symptoms of exposure may include: Eye irritation, burning sensation, pain, watering, and/or change of vision.
- Inhalation:** May cause respiratory tract irritation. Symptoms of exposure may include: Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty. Nausea, headache and/or dizziness.
- Ingestion:** Essentially non-toxic. Symptoms of exposure may include: Central nervous system depression with nausea, headache and mental sluggishness.
- Mutagenic:** Shows mixed results for mutagenic potential in vitro.
- Target organ effects:** •Overexposure (prolonged or repeated exposure) may cause:
Local irritation at the site of exposure
- Medical conditions which may be aggravated by exposure:** Significant exposure to this chemical may adversely affect people with acute or chronic disease of the:
Respiratory Tract
Skin
Eyes
Central nervous system

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Published date:	02/02/2006

For further information, see: Section 4 - First Aid Measures
Section 5 - Fire Fighting Measures
Section 6 - Accidental Release Measures
Section 8 - Exposure Controls/Personal Protection
Section 9 - Physical and Chemical Properties
Section 10 - Stability and Reactivity

4. First Aid Measures

Skin: Immediately flush skin with plenty of water. Remove contaminated shoes and clothing. Get medical attention if irritation develops and persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. Get medical attention.

5. Fire Fighting Measures

NFPA: Health: 1 Flammability: 2 Reactivity: 0

Flammable properties

Flash point (test method): 58.9 C (138 F) (SETA)

Flammable limits in air, % by volume:

Upper: 6.9%
Lower: 1.8%

Autoignition temperature: Not determined.

Products of combustion: Carbon Monoxide.

Extinguishing Media: Use alcohol type aqueous film forming foam for large fires. Use CO₂ or dry chemical for small fires.

Fire Fighting Instructions: Water spray should be used to cool fire-exposed structures and vessels. Water spray can be used to reduce the intensity of flames and to dilute spills to a non-flammable mixture. Keep personnel removed from and upwind of fire. If potential for exposure to vapors or products of combustion exists, wear full fire fighting turnout gear and NIOSH approved self-contained breathing apparatus. Oxidizing chemicals may accelerate the burning rate in a fire situation.

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MSDS number:	28
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Fire Fighting Thoroughly decontaminate bunker gear and other fire-fighting equipment before re-use.
Environmental Concerns:

6. Accidental Release Measures

Spill or Leak Instructions

Eliminate ignition sources. See Section 8 for appropriate personal protective equipment. Contain spill with dikes of soil or nonflammable absorbent to minimize contaminated area. If fire potential exists, blanket spill with alcohol type aqueous film-forming foam or use water fog stream to disperse vapors. Avoid run-off into storm sewers and ditches leading to waterways. If required, notify state and local authorities. Place leaking containers in well-ventilated area. Clean up small spills by using a nonflammable absorbent or flushing sparingly with water. Contain larger spills with nonflammable diking or absorbent. Clean up by vacuuming or sweeping.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 800 meters or 0.5 miles in all directions if tank, rail car, or tank truck is involved in fire. Assess the spill situation, as the spill may not evolve large amounts of hazardous airborne contaminants in many outdoor spill situations. It may be advisable in some cases to simply monitor the situation until spilled product is removed.

7. Handling and Storage

Handling:

Use with adequate ventilation. Keep containers closed when not in use. Always open containers slowly to allow any excess pressure to vent. Avoid breathing vapor. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Decontaminate soiled clothing thoroughly before re-use. Destroy contaminated leather clothing.

This product may generate a static charge. Ground/bond equipment when transferring material to prevent static accumulation. Electrical equipment and circuits in all storage and handling must conform to requirements of National Electric Code (Article 500 and 501) for hazardous location.

Storage:

Keep all containers tightly closed when not in use. Store out of direct sunlight and on an impermeable floor.
Do not store with incompatible materials. See Section 10. Stability and Reactivity.

8. Exposure Controls / Personal Protection

Engineering Controls:

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred.

Protective Equipment

A safety shower and eyebath should be readily available.

Product name:	Diacetone alcohol
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Skin protection: Wear impervious clothing and gloves to prevent contact. Neoprene is recommended. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Eye/face protection: Wear chemical goggles when there is a reasonable chance of eye contact.

Respiratory protection: Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level. To estimate an occupational exposure level see Section 3, Section 8 and Section 11.

For concentrations > 1 and < 10 times the occupational exposure level: Use air-purifying respirator with full facepiece and organic vapor cartridge(s) or air-purifying full facepiece respirator with an organic vapor canister or a full facepiece powered air-purifying respirator fitted with organic vapor cartridge(s). The air purifying element must have an end of service life indicator, or a documented change out schedule must be established. Otherwise, use supplied air.

For concentrations more than 10 times the occupational exposure level and less than the lower of either 100 times the occupational exposure level or the IDLH: Use Type C full facepiece supplied-air respirator operated in positive-pressure or continuous-flow mode.

For concentrations > 100 times the occupational exposure level or greater than the IDLH level or unknown concentrations (such as in emergencies): Use self-contained breathing apparatus with full facepiece in positive-pressure mode or Type C positive-pressure full facepiece supplied-air respirator with an auxiliary positive-pressure self-contained breathing apparatus escape system.

For escape: Use self-contained breathing apparatus with full facepiece or any respirator specifically approved for escape.

Exposure guidelines

Component	CAS Number	Percent %	ACGIH TWA	ACGIH STEL	ACGIH CEILING	OSHA TWA	OSHA STEL	OSHA CEILING	Celanese WEL *	Mexico TWA	Mexico STEL	Mexico CEILING
DIACETONE ALCOHOL	123-42-2	99	50 ppm	-	-	50 ppm	-	-	-	50 ppm	75 ppm	-

Component	CAS Number	Percent %	1990 NIOSH IDLH (Recognized by OSHA)	1994 NIOSH IDLH
DIACETONE ALCOHOL	123-42-2	99	2100 PPM	1800 ppm

Comments: * Workplace Exposure Limit

9. Physical and Chemical Properties

Appearance: Clear, colorless, mobile liquid (can gradually turn yellow during storage).

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Odor: Mild, characteristic "ketone" odor.

Vapor Pressure: 0.97

Vapor Density (Air=1 @ 20°C): 4.0

Boiling Point (760 mmHgA): 168.0 C (334.4 F)

Freezing Point: -48.0 C (-54.4 F)

Solubility in Water @ 20°C: 100%

Specific Gravity: 0.94

Molecular Weight: 116.0

Evaporation Rate (n-Butyl acetate = 1): 0.15

10. Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Avoid heat , flames, sparks, and other sources of ignition.

Incompatibility: Keep away from sulfuric and other strong inorganic acids, aluminum or lead (including equipment made of these metals), and oxidizing agents such as peroxides, nitric acid, perchloric acid or chromium trioxide.

Hazardous Combustion or Decomposition Products: Thermal decomposition products may include oxides of carbon.

Hazardous Polymerization: Hazardous polymerization will not occur.

11. Toxicological Information

Component Toxicological Information

Component	DIACETONE ALCOHOL
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Acute Exposure:

Oral LD50 : 4 g/kg (rats); slightly toxic to animals. CNS depression, respiratory depression, decreased blood pressure, anemia, liver and kidney damage have been reported in animals at high dose levels near the LD50.

Dermal LD50 : 13 g/kg (rabbits); slightly toxic to animals. Diacetone alcohol is not considered a contact sensitizer in guinea pigs.

Inhalation : Practically non-toxic to animals (no deaths in rats after 8 hr. saturated vapor exposure).

Eye: moderately irritating to rabbit eyes.

Mutagenicity : In vitro, not mutagenic in bacteria and yeast; weakly mutagenic in rat liver cells at high concentrations. In vivo, no information.

Other : Causes liver and kidney damage in animals via repeated inhalation or oral exposure at high concentrations. Causes potentiation of chloroform-induced liver injury in laboratory animals via oral exposure.

12. Ecological Information

Component Ecological Information

13. Disposal Considerations

Dispose of spilled material in accordance with state and local regulations for hazardous waste. Recommended methods are incineration or biological treatment at a federally or state-permitted disposal facility. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste. See Section 9 - Physical and Chemical Properties.

EPA Hazardous Waste Code(s): D001

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14. Transport Information

US Department of Transportation:

UN/NA Number:	UN 1148
Shipping name:	DIACETONE ALCOHOL
Hazard class:	3
Packing Group:	PG III
Emergency Response Guide:	129

ICAO/IATA:

IATA UN Number:	UN 1148
Proper Shipping Name:	DIACETONE ALCOHOL
Hazard Classification:	3
Packing group:	III
Label:	(Flammable Liquid)

IMDG:

International Marine UN Number:	UN 1148
Proper Shipping Name:	DIACETONE ALCOHOL
Hazard Class:	3
Packing Group:	III
Flash point (test method):	58.9 C (138 F) (SETA)

Transport Canada

Proper Shipping Name:	DIACETONE ALCOHOL
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Trade Information

Schedule B Code (export): 2914.40.1000

15. Regulatory Information

INTERNATIONAL REGULATIONS

International Chemical Inventory

Listed on the chemical inventories of the following countries or qualifies for an exemption:

AUSTRALIA, CHINA, CANADA, EUROPE, KOREA, PHILIPPINES, JAPAN

16. Other Information

Prepared by: Product Stewardship Department
Celanese Ltd.

Transportation emergency: 703 527 3887 (USA) CHEMTREC, collect calls accepted, 24 hrs/day

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Hazard ratings

This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems.

NFPA: Health: 1 Flammability: 2 Reactivity: 0

HMIS: Health: 2 Flammability: 2 Reactivity: 0

Revisions:

The following sections have been revised since the last issue of this MSDS.

1. Product and Company Identification

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Celanese makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. This material may be released from gas, liquid, or solid materials made directly or indirectly from it. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards. Material safety data sheets are provided on the Internet by Celanese as a service to its customers. Possession of an Internet MSDS does not indicate that the possessor of the MSDS was a purchaser or user of the subject product.