

MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	2
Fire Hazard	2
Reactivity	0



See Section 8.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code:	DI102
Product Name:	DIACETONE ALCOHOL
Chemical Name:	2-Pentanone, 4-hydroxy-4-methyl-
Synonyms:	2-Methyl-2-pentanol-4-one 4-Hydroxy-2-keto-4-methylpentane 4-Hydroxy-4-methyl pentan-2-one 4-Hydroxy-4-methyl-2-pentanone 4-Hydroxy-4-methylpentanone-2 Diacetone Diacetone-alcool (French) Diketone alcohol Pyranon Tyranton
Recommended use:	Solvent. In photographic films and plates. In photographic films. Inks.
CAS #:	123-42-2
Formula:	C6-H12-O2
RTECS #	SA9100000
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Martin LaBenz (West Coast)
Contact Person:	Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! FLAMMABLE LIQUID AND VAPOR. WARNING! IRRITANT. Irritating to eyes. May cause skin irritation.

Odor:
Slight. Pleasant. Mint-like.

Physical state:
Liquid.

Appearance:
No information available

Color:
Colorless.

2. HAZARDS IDENTIFICATION

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:

Skin. Eyes. Inhalation. Ingestion.

Acute Potential Health Effects:

Skin Contact:

May cause skin irritation.

Eye Contact:

Causes eye irritation. Moderately irritating to the eyes. Severe eye irritation.

Inhalation:

May cause irritation of respiratory tract. May cause nausea and vomiting. May cause central nervous system effects. May cause headache. May affect respiration. It may affect the brain. It may affect the heart. May affect the urinary system. It may affect the blood.

Ingestion:

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea. May cause central nervous system effects. May affect respiration. May affect the liver. It may affect the kidneys. May affect the blood.

Chronic Potential Health Effects:

Component

Diacetone Alcohol
123-42-2 (100)

Carcinogen Status:

No information available

Target Organs:

Central nervous system. Skin. Eyes. Liver. Kidneys. Respiratory system.

Teratogenic Effects:

No information available

Mutagenic Effects:

No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Diacetone Alcohol	123-42-2	100

4. FIRST AID MEASURES

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	58-64 °C/1136.4-147.2°F
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Tested according to:

Closed cup
Open cup

Lower Explosion Limit (%):	1.8%
Upper Explosion Limit (%):	6.9%

Autoignition Temperature (°C/°F):	603-643 °C/1118-1190 °F
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Suitable Extinguishing Media:	Carbon dioxide (CO ₂). Dry chemical. Alcohol-resistant foam. Water spray.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream as it may scatter and spread fire.
Hazardous Combustion Products:	Carbon monoxide; Carbon dioxide
Specific hazards:	Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Specific Methods:	Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for Cleaning Up:

Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Storage**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Products:

Oxidizing agents. Acids. Alkalis.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

Eye protection: Goggles. Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

National occupational exposure limits**United States**

U.S Occupational Exposure Limits:

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Diacetone Alcohol - 123-42-2	50 ppm TWA 240 mg/m ³ TWA	50 ppm TWA 240 mg/m ³ TWA	50 ppm TWA	None

Canada**Canada Occupational Exposure Limits:**

Components	Alberta	British Columbia	Ontario	Quebec
Diacetone Alcohol 123-42-2	50 ppm TWA 238 mg/m ³ TWA	50 ppm TWA	50 ppm TWA 240 mg/kg TWA 75 ppm STEL 360 mg/m ³ STEL	50 ppm TWAEV 238 mg/m ³ TWAEV

Australia and Mexico**Occupational Exposure Limits for Australia and Mexico:**

Components	Australia	Mexico
Diacetone Alcohol 123-42-2	50 ppm TWA 238 mg/m ³ TWA	50 ppm TWA 240 mg/m ³ TWA 75 ppm STEL 360 mg/m ³ STEL

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical state:**

Liquid.

Appearance:

No information available

Color:

Colorless.

Odor:

Slight. Pleasant. Mint-like.

Taste

No information available

Molecular/Formula weight:

116.16

Flash point (°C):

58

Lower Explosion Limit (%):

1.8%

Upper Explosion Limit (%):

6.9%

Autoignition Temperature (°C/°F):

603-643 °C/1118-1190 °F

pH:

No information available

Melting point/range(°C/°F):

-44 °C/-47.2 °

Boiling point/range(°C/°F):

167.9 °C/344.2 °F @ 760 mm Hg
 108.2 °C/226.76 °F @ 100 mm Hg
 72 °C/161.6 °F @ 20 mm Hg
 58.8 °C/137.84 °F @10 mm Hg

Decomposition temperature(°C/°F):

No information available

Specific gravity:

0.938-0.941

Density (g/cm³):

No information available

Bulk density:

No information available

Vapor pressure @ 20°C (kPa):

0.1293

Evaporation rate:

No information available

Vapor density:

4.0

VOC content (g/L):

938-940

Odor threshold (ppm):

0.28-1.7

**Partition coefficient
(n-octanol/water):**

-0.098

Miscibility:

Miscible with water
 Miscible with Ether
 Miscible with alcohol

Solubility:

No information available

10. STABILITY AND REACTIVITY**Stability:**

Stable at normal conditions

Conditions to avoid:

Heat. Ignition sources. Incompatible materials.

Materials to avoid:	Strong oxidising agents. Strong acids. Alkalis.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.
Possibility of Hazardous Reactions:	No information available
Polymerization:	Hazardous polymerisation does not occur
Corrosivity:	No information available
Special Remarks on Corrosivity:	No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Diacetone Alcohol - 123-42-2

LD50/oral/rat = 4 g/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = 13500 mg/kg Dermal LD50 Rabbit
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information =
 No information available

Product Information

LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LD50/oral/mouse = No information available

LD50/oral/rat = No information available

Local Effects

Skin irritation:	May cause skin irritation. Mild skin irritation. Moderate skin irritation.
Eye irritation:	Causes eye irritation. Moderate eye irritation. Severe eye irritation.
Inhalation:	May cause irritation of respiratory tract. May cause conjunctival irritation. May affect respiration (respiratory depression). May cause nausea, vomiting. May affect behavior/central nervous system (somnolence). May affect behavior/central nervous system (excitement, restlessness). May affect the brain. May affect the kidneys.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May affect respiration (respiratory depression). May affect behavior/central nervous system (general anesthetic). May affect behavior/central nervous system (somnolence, convulsions). May affect liver .
Sensitization:	No information available

Chronic Toxicity

Chronic Toxicity

Prolonged skin contact may defat the skin and produce dermatitis.. Prolonged or repeated inhalation may affect the blood (pigmented or nucleated red blood cells). Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the cardiovascular system (dysrhythmias, cardiomyopathy). Prolonged or repeated ingestion may affect the kidneys. Prolonged or repeated ingestion may affect the blood (cause destruction of red blood cells with reduction of hemoglobin).

Carcinogenic effects:

Not considered carcinogenic

Components	NTP	IARC	OSHA HCS - Carcinogens	ACGIH - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Diacetone Alcohol	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects:

No information available

Reproductive Effects:

No information available

Teratogenic Effects:

No information available

Target Organs:

Central nervous system. Skin. Eyes. Liver. Kidneys. Respiratory system.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals:

Information given is based on data on the components and the ecotoxicology of similar products

Ecotoxicity effects:

Aquatic environment.

Aquatic toxicity:

Diacetone Alcohol - 123-42-2

Freshwater Fish Species Data:

420 mg/L LC50 *Lepomis macrochirus* 96 h 1
420 mg/L LC50 *Lepomis macrochirus* 96 h static 1

Water Flea Data:

8750 mg/L EC50 *Daphnia magna* 24 h

Mobility:

No information available

Persistence and degradability:

No information available

Bioaccumulative potential:

No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Diacetone Alcohol	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	Not applicable
Marine Pollutant	No data available
ERG No:	129
DOT RQ (lbs):	No information available

TDG (Canada)

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Description:	No information available

ADR

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Classification Code:	No information available
Description:	No information available
CEFIC Tremcard No:	No information available

IMO / IMDG

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Description:	No information available
IMDG Page:	No information available
Marine Pollutant	No information available
EMS:	F-E
MFAG:	No information available
Maximum Quantity:	No information available

RID

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	3
Classification Code:	No information available
Description:	No information available

ICAO

UN-No:	UN1148
Proper Shipping Name:	Diacetone alcohol
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Description:	No information available

IATA

UN-No: UN1148
Proper Shipping Name: Diacetone alcohol
Hazard Class: 3
Packing Group: III
Subsidiary Risk: No information available
ERG Code: 3L
Description: No information available

15. REGULATORY INFORMATION**International Inventories**

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Diacetone Alcohol</i>	Present	Present	KE-20675	2-587 2-646 2-587	Present	Present	204-626-7

U.S. Regulations*Diacetone Alcohol*

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Diacetone Alcohol</i>	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Diacetone Alcohol</i>	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Diacetone Alcohol</i>	Not Applicable	08/04/199506/30/1998

Canada

WHMIS hazard class:
B3 Combustible liquid
D2B Toxic materials

Diacetone Alcohol
B3 D2B

Canada Controlled Products Regulation:

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

Components	WHMIS Ingredient Disclosure List -
Diacetone Alcohol	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Diacetone Alcohol	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Diacetone Alcohol	Not listed	Not listed

EU Classification

R-phrases(s)

R36 - Irritating to eyes.

S -phrase(s)

S 2 - Keep out of the reach of children.

S24/25 - Avoid contact with skin and eyes.

Components	Classification	Safety Phrases
Diacetone Alcohol	Xi; R36	S2 S24/25

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

Xi



16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

Preparation Date	14-Sep-2012
Reason for revision:	Not applicable
Prepared by:	Sonia Owen
Literature reference:	No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.