

SAFETY DATA SHEET

Preparation Date: 5/30/2013

Revision Date: 2/2/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: D2365
Product Name: DIETHYL OXALATE

Other means of identification

Synonyms: Diethyl ethanedioate
 Ethanedioic acid, diethyl ester
CAS #: 95-92-1
RTECS # RO2800000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: In organic synthesis. Solvent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Flammable liquids	Category 4

Label elements

Warning

Hazard statements
 Harmful if swallowed
 Causes serious eye irritation
 Combustible liquid

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Causes mild skin irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.
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.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Diethyl Oxalate	95-92-1	100

4. FIRST AID MEASURES**First aid measures**

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. First aider needs to protect himself. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes 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. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye irritation
Moderately irritating to the eyes
Mild skin irritation
Central nervous system effects
May cause cardiovascular effects
May cause gastrointestinal disturbances
Vomiting
Nausea

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide.

Specific hazards: Combustible material. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters

Specific Methods: No information available.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe 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. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

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

Incompatible Materials:

Oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Diethyl Oxalate	95-92-1	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Diethyl Oxalate	95-92-1	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Diethyl Oxalate	95-92-1	None	None

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

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

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid

Appearance:

Oily.

Color:

Colorless.

Odor:

Aromatic.

Taste

No information available.

Formula:

C6-H10-O4

Molecular/Formula weight:

146.15

Flammability:

Combustible

Flash point (°C):

74

Flashpoint (°C/°F):

74-76 °C/165.2168.8 °F

Flash Point Tested according to:

Closed cup

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

-38.5 °C/-37.3 °F

Decomposition temperature(°C/°F):

No information available

Boiling point/range(°C/°F):

185-186 °C/365-366.8 °F

Bulk density:

No information available

Density (g/cm3):

No information available

Specific gravity:

1.08 @ 20 °C

pH:

No information available

Vapor pressure @ 20°C (kPa):

No information available

Evaporation rate:

No information available

Vapor density:

No information available

VOC content (g/L):

Odor threshold (ppm):

Product code: D2365

Product name: DIETHYL OXALATE

No information available

No information available

**Partition coefficient
(n-octanol/water):**
No information available

Viscosity:
No information available

Miscibility:
Miscible with Ethyl Acetate

Solubility:
Sparingly soluble in water
Freely soluble in Ether
Freely soluble in Acetone
Freely soluble in alcohol

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Oxidizing agents

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Eyes. Ingestion. Inhalation.

Acute Toxicity

Component Information

Diethyl Oxalate

CAS-No. 95-92-1

LD50/oral/rat = 400-1600 mg/kg (European Food Safety Authority (EFSA))

LD50/oral/mouse = 2 g/kg Oral LD50 Mouse

LD50/dermal/rabbit = No information available

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

LD50/oral/rat =

VALUE- Acute Tox Oral = 400 mg/kg

Product code: D2365

Product name: DIETHYL OXALATE

LD50/oral/mouse =
Value - Acute Tox Oral = 2000 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. Mild skin irritation.

Eye Contact: Causes eye irritation. Moderately irritating to the eyes.

Inhalation Irritating to respiratory system.

Ingestion Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Symptoms may include a burning sensation in the mouth, throat, and stomach. May affect the cardiovascular system (hypotension). It may affect the cardiovascular system (weak and irregular pulse). May affect behavior/central nervous system (headache, tetany, convulsions, stupor, coma). May affect the kidneys (albuminuria, hematuria).

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Diethyl Oxalate	95-92-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Product code: D2365

Product name: DIETHYL OXALATE

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

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	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Diethyl Oxalate	95-92-1	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: UN2525,Ethyl oxalate ,6.1,,PG III

TDG (Canada)

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate

Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant Description: No Information available
 ETHYL OXALATE,6.1,UN2525,PG III

ADR

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Description: UN2525 Ethyl oxalate,6.1,III

IMO / IMDG

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant Description: No information available
 EMS: F-A

RID

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Subsidiary Risk: 6.1
Packing Group: III
Description: UN2525 Ethyl oxalate,6.1,III,RID

ICAO

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: Ethyl oxalate,6.1,UN2525,PG III

IATA

UN-No: UN2525
Proper Shipping Name: Ethyl oxalate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Special Provisions Description: No information available
 UN2525,Ethyl oxalate,6.1,PG III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Diethyl Oxalate	95-92-1	PresentACTIVE	Present KE-13158	Present	Present (2)-924	Present	Present	Present 202-464-1

U.S. Regulations

Diethyl Oxalate

New Jersey RTK Hazardous Substance List: 0901

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	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Diethyl Oxalate	95-92-1	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	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 de minimis
Diethyl Oxalate	95-92-1	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Diethyl Oxalate	95-92-1	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

- B3 Combustible liquid
- D1B Toxic materials
- D2B Toxic materials

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 -
Diethyl Oxalate	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Diethyl Oxalate	95-92-1	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Diethyl Oxalate	95-92-1	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject

		to Mandatory Reporting
Diethyl Oxalate	95-92-1	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Diethyl Oxalate	95-92-1	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.607-147-00-5

EU - CLP (1272/2008)

R-phrase(s)

R22 - Harmful if swallowed.

R36 - Irritating to eyes.

S -phrase(s)

S 2 - Keep out of the reach of children.

S23 - Do not breathe gas/fumes/vapor/spray.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Diethyl Oxalate	95-92-1	Xn; R22 Xi; R36	No information	S: (2)-23

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

Indication of danger:

Xn - Harmful.

Xi - Irritant.

Xn



Xi



16. OTHER INFORMATION

Preparation Date: 5/30/2013
Revision Date: 2/2/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) 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 SDS. The physical properties reported in this SDS 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

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End of Safety Data Sheet