

SAFETY DATA SHEET

Preparation Date: 3/3/2014

Revision Date: 3/3/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: D3183
Product Name: N,N-DIISOPROPYLCARBODIIMIDE

Other means of identification

Synonyms: 2-Propanamine, N,N'-methanetetraylbis- (9CI)
Diisopropylcarbodiimide
N,N'-Methanetetraylbis-2-propanamine
CAS #: 693-13-0
RTECS # FF2175000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Reagent.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
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: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Acute toxicity - Inhalation (Gases)	Category 1
Acute toxicity - Inhalation (Vapors)	Category 1
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Flammable liquids	Category 3

Label elements

Danger

Hazard statements

Fatal if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
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
Keep cool

Precautionary Statements - Response

Specific treatment is urgent (see .? on this label)
Specific treatment (see .? on this label)
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 skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Precautionary Statements - Storage

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

Product code: D3183

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DIISOPROPYLCARBODIIMIDE

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Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
N,N'-Diisopropylcarbodiimide 693-13-0	693-13-0	100	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). 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 clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact:

Flush eye with water for 15 minutes. Get medical attention.

Inhalation:

Toxic by inhalation. Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is required. **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. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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 eye irritation. Causes skin irritation. May be fatal if inhaled. May cause allergic respiratory reaction. May cause allergic skin reaction. May cause nausea and vomiting. May cause headache. Central nervous system effects.

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. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon oxides; Nitrogen oxides

Specific hazards:

Flammable. May be ignited by heat, sparks or flames. 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). Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters**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.

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. 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. Do not let product enter drains. 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 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. Use only non-sparking tools. 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. 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.

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. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits**

U.S Occupational Exposure Limits: Not determined

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
N,N'-Diisopropylcarbodiimide - 693-13-0	None	None	None	None

Canada

Canada Occupational Exposure Limits: Not determined

Components	Alberta	British Columbia	Ontario	Quebec
N,N'-Diisopropylcarbodiimide - 693-13-0	None	None	None	None

Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

Components	Australia	Mexico
N,N'-Diisopropylcarbodiimide 693-13-0	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:** 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Liquid.	Appearance: No information available	Color: Colorless. Light brown.
Odor: No information available	Taste: No information available	Formula: C7-H14-N2
Molecular/Formula weight: 126.2	Flash point (°C): 31	Flashpoint (°C/°F): 31-33 °C/87.8-91.4 °F
Flash Point Tested according to: Closed cup	Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available
Autoignition Temperature (°C/°F): No information available	pH: No information available	Melting point/range(°C/°F): No information available
Boiling point/range(°C/°F): 145-148 °C/293-298.4 °F	Decomposition temperature(°C/°F): No information available	Specific gravity: No information available
Density (g/cm3): 0.802 @ 25 °C 0.815 @ 20 °C	Bulk density: No information available	Vapor pressure @ 20°C (kPa): 0.68 @ 25 °C
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): 4.11	Viscosity: No information available
Miscibility: No information available	Solubility: Soluble in Chloroform Soluble in Dimethylformamide Soluble in Methylene Chloride Soluble in acetonitrile Soluble in dioxane Reacts with water	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reactive with acids
Reacts with water to form 1,3-diisopropylurea

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

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

Incompatible Materials: Oxidizing agents. Acids.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx).

Other Information

Corrosivity: No information available

Product code: D3183

Product name: N,N-DIISOPROPYLCARBODIIMIDE

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Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (inhalation-dust/mist) 0.1mg/l

Component Information

N,N'-Diisopropylcarbodiimide - 693-13-0

LD50/oral/rat = No information available

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = 0.105 mg/l 4 h

0.41-0.922 mg/l 6 h

20 ppm 4 h

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =

Value - Acute Tox Oral = No information available

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 = 0.105mg/l (4-hr)

VALUE-Gas = 20ppm (4-hr)

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. May cause allergic skin reaction. It may be absorbed through the skin. If absorbed through the skin in large amounts, it may cause central nervous system effects (ataxia, convulsions, excitement, muscle weakness, sleepiness, tremor).

Eye Contact: Causes eye irritation.

Inhalation Fatal if inhaled. Irritating to respiratory system. May cause allergic respiratory reaction.

Ingestion Ingestion may cause nausea, vomiting. May cause headache.

Aspiration hazard No information available

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

Chronic Toxicity Prolonged or repeated skin contact may cause allergic contact dermatitis. Prolonged or repeated skin contact may caused central nervous system effects. Prolonged or repeated inhalation may cause allergic reaction.

Sensitization: May cause sensitization by skin contact May cause sensitization by inhalation

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
N,N'-Diisopropylcarbodiimide	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure respiratory system.

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

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
N,N'-Diisopropylcarbodiimide	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 3
Packing Group: I (Inhalation Hazard Zone B)
Marine Pollutant: No data available
ERG No: 131
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 3
Packing Group: I
Description: No information available

ADR

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Packing Group: I
Subsidiary Risk: 3
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 3
Packing Group: I
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

14. TRANSPORT INFORMATION

RID

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 6.1 + 3
Packing Group: I
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 3
Packing Group: No information available
Description: No information available

IATA

UN-No: UN3384
Proper Shipping Name: Toxic by inhalation liquid, flammable, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: 3
Packing Group: No information available
ERG Code: 6F
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>N,N'</i> -Diisopropylcarbodiimide	Present	Present	Not present	Not present	Not present	Not present	Present 211-743-7

U.S. Regulations

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>N,N'</i> -Diisopropylcarbodiimide	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>N,N'</i> -Diisopropylcarbodiimide	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
N,N'-Diisopropylcarbodiimide	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

B2 Flammable liquid
D2B Toxic materials
D1A Very toxic materials
D2A Very 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.

Inventory

Components	Canada (DSL)	Canada (NDSL)
N,N'-Diisopropylcarbodiimide	Not Listed	Present

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
N,N'-Diisopropylcarbodiimide	Not listed	Not listed

EU Classification

R-phrase(s)

R26 - Very toxic by inhalation.
R10 - Flammable.
R41 - Risk of serious damage to eyes.
R37/38 - Irritating to respiratory system and skin.
R42/43 - May cause sensitization by inhalation and skin contact.

S -phrase(s)

S16 - Keep away from sources of ignition - No smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28A - After contact with skin, wash immediately with plenty of water.
S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	Classification	Concentration Limits:	Safety Phrases
N,N'-Diisopropylcarbodiimide		No information	

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

Indication of danger:

None.

Product code: D3183

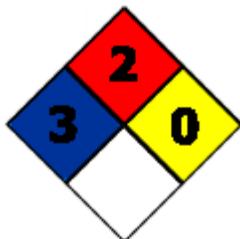
Product name: N,N-
DIISOPROPYLCARBODIIMIDE

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16. OTHER INFORMATION

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



See Section 8.

Preparation Date: 3/3/2014
Revision Date: 3/3/2014
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 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet