SAFETY DATA SHEET
1,3-Diisopropylcarbodiimide

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name 1,3-Diisopropylcarbodiimide
Product number FD02073
Synonyms; trade names DIC, N,N'-Diisopropylcarbodiimide
CAS number 693-13-0
EC number 211-743-7

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses Laboratory reagent. Manufacture of substances. Research and development.

1.3. Details of the supplier of the safety data sheet
Supplier Carbosynth Ltd
8&9 Old Station Business Park
Compton
Berkshire
RG20 6NE
UK
+44 1635 578444
+44 1635 579444
info@carbosynth.com

1.4. Emergency telephone number
Emergency telephone +44 7887 998634

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical hazards Flam. Liq. 3 - H226
Environmental hazards Not Classified

2.2. Label elements
EC number 211-743-7

Pictogram
Signal word Danger
1,3-Diisopropylcarbodiimide

**Hazard statements**
- H226 Flammable liquid and vapour.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.

**Precautionary statements**
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe vapour/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P304+P318 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.

**2.3. Other hazards**
No data available.

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**
- **Product name**: 1,3-Diisopropylcarbodiimide
- **CAS number**: 693-13-0
- **EC number**: 211-743-7
- **Chemical formula**: C₇H₁₄N₂

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**
- **General information**: Get medical advice/attention if you feel unwell.
- **Inhalation**: Remove person to fresh air and keep comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms are severe or persist.
- **Ingestion**: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.
- **Skin contact**: Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.
- **Eye contact**: Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

**4.2. Most important symptoms and effects, both acute and delayed**
- **General information**: See Section 11 for additional information on health hazards.

**4.3. Indication of any immediate medical attention and special treatment needed**
- **Notes for the doctor**: Treat symptomatically.

**SECTION 5: Firefighting measures**
1,3-Diisopropylcarbodiimide

5.1. Extinguishing media

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: None known.

Hazardous combustion products: Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter’s clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours. Provide adequate ventilation. Eliminate all sources of ignition. Keep unnecessary and unprotected personnel away from the spillage. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Vapours may accumulate on the floor and in low-lying areas.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with sand or other inert absorbent. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Provide adequate ventilation. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections: For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions: Wear protective clothing as described in Section 8 of this safety data sheet. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions: Keep container tightly closed. Keep in a cool, well ventilated place. Keep containers upright. Store away from incompatible materials (see Section 10). Store contents under inert gas. Protect from moisture. Store at temperatures between 2°C and 8°C.

7.3. Specific end use(s)

Specific end use(s): The identified uses for this product are detailed in Section 1.2.
1,3-Diisopropylcarbodiimide

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits
No exposure limits known for ingredient(s).

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation.

Eye/face protection
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance
Liquid.

Colour
Clear. Colourless. to Yellow.

Odour
No data available.

Odour threshold
No data available.

pH
No data available.

Melting point
No data available.

Initial boiling point and range
145 to 148°C

Flash point
31°C

Evaporation rate
No data available.

Flammability (solid, gas)
No data available.

Upper/lower flammability or explosive limits
No data available.

Vapour pressure
6.8 hPa @ 25°C

Vapour density
No data available.

Relative density
0.815 g/cm³ @ 20°C
1,3-Diisopropylcarbodiimide

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<tr>
<td>Oxidising properties</td>
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9.2. Other information
Molecular weight 126.2

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity  
No data available.

10.2. Chemical stability
Stability  
Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions  
No data available.

10.4. Conditions to avoid
Conditions to avoid  
Heat, sparks, flames. Water, moisture.

10.5. Incompatible materials
Materials to avoid  
Strong oxidising agents. Acids.

10.6. Hazardous decomposition products
Hazardous decomposition products  

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)  
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)  
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Acute toxicity inhalation (LC₅₀ vapours mg/l) 0.105

Species  
Rat

Notes (inhalation LC₅₀)  
Acute Tox. 1 - H330 Fatal if inhaled.

ATE inhalation (vapours mg/l) 0.05

Skin corrosion/irritation  
Animal data  
Irritating.
1,3-Diisopropylcarbodiimide

Serious eye damage/irritation
Eye Dam. 1 - H318 Causes serious eye damage.

Respiratory sensitisation
There is evidence that the product can cause respiratory hypersensitivity.

Skin sensitisation
May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure STOT SE 3 - H335 May cause respiratory irritation.

Target organs
Respiratory system, lungs

Specific target organ toxicity - repeated exposure
STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
May cause sensitisation or allergic reactions in sensitive individuals. A single exposure may cause the following adverse effects: Difficulty in breathing. Unconsciousness, possibly death.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target organs
Respiratory system, lungs

Medical considerations
Skin disorders and allergies.

RTECS #
FF2175000

SECTION 12: Ecological Information

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
1,3-Diisopropylcarbodiimide

12.1. Toxicity
Toxicity Based on available data the classification criteria are not met.

12.2. Persistence and degradability
Persistence and degradability The degradability of the product is not known.

12.3. Bioaccumulative potential
Bioaccumulative potential No data available on bioaccumulation.
Partition coefficient No data available.

12.4. Mobility in soil
Mobility No data available.

12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment No data available.

12.6. Other adverse effects
Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number
UN No. (ADR/RID) 2929
UN No. (IMDG) 2929
UN No. (ICAO) 2929
UN No. (ADN) 2929

14.2. UN proper shipping name
Proper shipping name (ADR/RID) TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (1,3-Diisopropylcarbodiimide)
Proper shipping name (IMDG) TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (1,3-Diisopropylcarbodiimide)
Proper shipping name (ICAO) TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (1,3-Diisopropylcarbodiimide)
Proper shipping name (ADN) TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (1,3-Diisopropylcarbodiimide)

14.3. Transport hazard class(es)
ADR/RID class 6.1
ADR/RID subsidiary risk 3
ADR/RID classification code TF1
ADR/RID label 6.1
IMDG class 6.1
1,3-Diisopropylcarbodiimide

IMDG subsidiary risk 3
ICAO class/division 6.1
ICAO subsidiary risk 3
ADN class 6.1
ADN subsidiary risk 3

Transport labels

14.4. Packing group
ADR/RID packing group II
IMDG packing group II
ADN packing group II
ICAO packing group II

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user
EmS F-E, S-D
ADR transport category 2
Emergency Action Code •3W
Hazard Identification Number (ADR/RID) 63
Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.
1,3-Diisopropylcarbodiimide

Inventories
US - TSCA
Present.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Training advice
Only trained personnel should use this material.

Revision date
26/05/2017

Revision
1

SDS number
144929

Hazard statements in full
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.