

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Diisopropyl azodicarboxylate

Version number: 1.1

Issued: 2024-04-25



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

1.1. Product identifier

Trade name

Diisopropyl azodicarboxylate

CAS number

2446-83-5

EC number

219-502-8

Synonyms

(E)-N-[[[(propan-2-yloxy)carbonyl]imino](propan-2-yloxy)formamide

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Skin irritation, hazard category 2

Eye irritation, hazard category 2

Carcinogenicity, hazard category 2

Specific Target Organ Toxicity — Single exposure, hazard category 3

Hazardous to the aquatic environment — Chronic hazard category 2

Hazard statements

H315, H319, H335, H373, H411

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.

P261 Avoid breathing dust.

P273 Avoid release to the environment.

P302 + P352 IF ON SKIN: Wash with plenty of water/.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

No data available

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Diisopropyl Azodicarboxylate	2446-83-5 231-869-6 - -	100%	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3 - resp. tract irrit., Carc. 2, Aquatic Chronic 4	H315, H319, H335, H351, H411 - -	-

Molecular weight

202.21

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact

IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors

First aiders/ medical personnel need to protect themselves.

4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

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Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon dioxide (CO₂).

Carbon monoxide (CO).

Nitrous gases (NO_x).

Hydrogen Chloride gas

Combustible.

Formation of explosive mixtures with: Heating.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation. For personal protection, see section 8.

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6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Work under hood Do not inhale substance/mixture Avoid generation of vapours/aerosols.

General hygiene

Immediately change contaminated clothes. Skin protection Wash skin with soap and water. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Store in closed original container at temperatures between 8°C and 21°C. 35.6-46.4°F Handle and store contents under inert gas/...

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

No occupational exposure limit assigned.

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Butyl rubber gloves are recommended.

Glove Thickness: 0.7mm

Breakthrough time: 10 minutes

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

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Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Orange.

Odour

Pungent.

Melting point / freezing point

3-5 °C

Boiling point or initial boiling point and boiling range

75 °C

Flammability

No data available

Lower and upper explosion limit

No data available

Flash point

106 °C

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

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Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

1.027 g/ml

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Forms explosive mixtures with air on intense heating.

15 Kelvin below the flash point is to be rated as critical

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidising agents.

Bases.

Alcohols

10.4. Conditions to avoid

Decomposes violently at or above: 100°C

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals
Diisopropyl Azodicarboxylate 2446-83-5 / 231-869-6	Acute Toxicity (Inhalation LC50):	12,000 mg/l	Rat
Diisopropyl Azodicarboxylate 2446-83-5 / 231-869-6	Acute Toxicity (Dermal LD50):	2150 mg/kg	Rabbit

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
Diisopropyl Azodi- carboxylate 2446-83-5 / 231-869-6	Negative.	with and without meta- bolic activation	Escherichia coli/Salmon- ella typhimurium	Ames Test

Aspiration hazard

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

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Diisopropyl Azodi- carboxylate 2446-83-5 / 231-869-6	LC50 96 hours, fish, mg/l	13.4 mg/l	96 hours	Cyprinus carpio (Com- mon carp)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Diisopropyl Azodi- carboxylate 2446-83-5 / 231-869-6	IC50	6.8 mg/l	72 hours	Pseudokirchneriella sub- capitata (green algae)

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Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Diisopropyl Azodi-carboxylate 2446-83-5 / 231-869-6	EC50	42 mg/l	48 hours	Daphnia magna

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Result
Diisopropyl Azodicarboxylate 2446-83-5 / 231-869-6	15% The product is not biodegradable.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with international regulations.

SECTION 14: Transport information

14.1. UN number

3082

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14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IATA proper shipping name

Environmentally hazardous substance, liquid, n.o.s.

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



9

Environmental hazard

IMDG



9

IATA



9

Environmental hazard

ADR / RID Class

9

ADR / RID Classification code

M6

ADR / RID hazard identification number

90

IMDG Class

9

IATA Class

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ADN Class

9

ADN Class Code

M6

14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

14.5. Environmental hazards

Environmental hazards

ADR/RID/ADN: Hazardous for the environment

14.6. Special precautions for user

Special precautions for user

Tunnel restriction code: -

Transport category: 3

IMDG EmS

F-A, S-F

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC03

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National regulations

No data available

15.2. Chemical safety assessment

No data available

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SECTION 16: Other information

Phrase meaning

Skin Irrit. 2 - Skin irritation, hazard category 2

Eye Irrit. 2 - Eye irritation, hazard category 2

Carc. 2 - Carcinogenicity, hazard category 2

STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation

Aquatic Chronic 4 - Hazardous to the aquatic environment — Chronic hazard category 4

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.