

According to Regulation (EC) No 1907/2006

EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride)



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

1.1. Product identifier

Trade name

EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride)

CAS number

25952-53-8

EC number

247-361-2

Synonyms

N-Ethyl-N'-(3-dimethylaminopropyl)carbodiimide hydrochloride

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

Street 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 address

+44 (0) 7769276927

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1.4. Emergency telephone number

Poison center/Additional emergency number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Serious eye damage, hazard category 1
 Hazardous to the aquatic environment — Acute hazard category 1
 Hazardous to the aquatic environment — Chronic hazard category 1
 Skin irritation, hazard category 2
 Skin sensitisation, hazard category 1
 Specific Target Organ Toxicity — Repeated exposure, hazard category 2
 Acute toxicity, oral, hazard category 4
 Acute toxicity, dermal, hazard category 3
 Specific Target Organ Toxicity — Single exposure, hazard category 3

Hazard statements

H302, H311, H315, H317, H318, H335, H373, H400, H410

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or repeated exposure
 H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements

P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P302 + P352 IF ON SKIN: Wash with plenty of water/.
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
 P362 + P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No data available

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
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride)	25952-53-8 247-361-2 - -	100%	Acute Tox. 4 - oral, Acute Tox. 3 - dermal, Skin Irrit. 2, Skin Sens. 1, Eye Dam. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1, STOT SE 3	H302, H311, H315, H317, H318, H335, H373, H400, H410 - -	-

Molecular weight

191.70

Substance additional information

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

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SECTION 4: First aid measures

4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

Toxic if inhaled. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

Skin contact

In case of skin contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

The product contains a possibly sensitising substance which may provoke an allergic reaction among sensitive individuals.

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: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Stop if the affected person feels sick as vomiting may be dangerous. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! NOTE! Effects may be delayed. Keep affected person under observation.

Information for doctors

It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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. See section 11 for more detailed information on health effects and symptoms.

Inhalation

Single exposure may cause the following adverse effects: Difficulty in breathing. Irritation of nose, throat and airway. Coughing.

Skin contact

Single exposure may cause the following adverse effects: Risk of sensitisation or allergic reactions among sensitive individuals. Pain.

Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage. Pain. Profuse watering of the eyes. Redness.

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Ingestion

Single exposure may cause the following adverse effects: May cause allergic skin disorders in sensitive individuals. May cause discomfort if swallowed. May cause stomach pain or 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

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Toxic.

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

Very toxic or corrosive gases or vapours.

Carbon dioxide (CO₂). Carbon monoxide (CO).

Oxides of: Nitrogen.

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

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. See section 13.

6.4. Reference to other sections

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

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Do not handle until all safety precautions have been read and understood. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. This material is toxic. Immediate first aid is necessary. Avoid discharge to the aquatic environment. Do not handle broken packages without protective equipment. Do not reuse empty containers.

General hygiene

Wash skin thoroughly after handling. Take off contaminated clothing. Wash contaminated clothing before reuse. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store away from incompatible materials (see section 10). Store locked up. Keep in original container. Keep container tightly closed. Store in a well-ventilated place. Keep upright. Protect containers from damage. Recommended storage temperature: -20 to -15°C (-4 to 5°F)

Storage class Toxic storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

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Other skin protection

Wash skin thoroughly after handling.

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

Solid

Colour

White / off-white.

Odour

No data available

Melting point / freezing point

111-116°C

Boiling point or initial boiling point and boiling range

> 125 °C

Flammability

The product is flammable.

Lower and upper explosion limit

No data available

Flash point

No data available

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

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Kinematic viscosity

No data available

Solubility

1,000 g/l at 20 °C

Partition coefficient n-octanol/water

log Pow: -2.98 at 20 °C

Vapour pressure

< 1.3 hPa at 20 °C

Density and/or relative density

1.044 g/cm³ at 20 °C

Relative vapour density

No data available

Explosive properties

Not considered to be explosive.

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Risk of dust explosion.

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

There are no known conditions that are likely to result in a hazardous situation.

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10.4. Conditions to avoid

Avoid exposure to:

Moist air.

Water

Violent reactions possible with:

oxidising agents

Acid anhydrides.

Acids.

10.5. Incompatible materials

There are no known reactivity hazards associated with this product.

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

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	LD50	500 mg/kg	Oral	Rat
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	LD50	>200-1,000 mg/kg	Dermal	Rat

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Species
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride)	Severe skin irritation.	Rabbit

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Product / Substance name CAS / EC no.	Result	Species
25952-53-8 / 247-361-2		

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	May produce an allergic reaction.	Mouse	Local Lymph Node Assay

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	Positive.	with and without metabolic activation	S. typhimurium	Ames test
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	Positive.	with and without metabolic activation	Mouse lymphoma cells	Chromosome aberration: In Vitro Test
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	Negative.	-	Rat	Genotoxicity in vivo

STOT-repeated exposure

Product / Substance name CAS / EC no.	Result
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride)	Causes damage to organs through prolonged or repeated exposure if swallowed.

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Product / Substance name CAS / EC no.	Result
25952-53-8 / 247-361-2	

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
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	LC50	4.6 mg/l	96 hours	Cyprinus carpio (Common carp)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	EC50	0.41 mg/l	48 hours	Daphnia magna

Micro-/macro organism toxicity

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	EC50	>347 - <470 mg/l	3 hours	Activated sludge.

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride) 25952-53-8 / 247-361-2	aerobic Chemical Oxygen Demand:	28 days	<5%	The product is not readily 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 local regulations.

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SECTION 14: Transport information

14.1. UN number

2811

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

TOXIC SOLID, ORGANIC, N.O.S. (EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride))

IMDG proper shipping name

TOXIC SOLID, ORGANIC, N.O.S. (EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride))

IATA proper shipping name

Toxic solid, organic, n.o.s. (EDAC hydrochloride (N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride))

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



6.1

IMDG



6.1

IATA



6.1

ADR / RID Class

6.1

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ADR / RID Classification code

T2

ADR / RID hazard identification number

60

IMDG Class

6.1

IATA Class

6.1

ADN Class

6.1

ADN Class Code

T2

14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

14.5. Environmental hazards

IMDG EmS

F-A, S-A

14.6. Special precautions for user

Tunnel restriction code: E

Transport category: 2

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

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

Directive: 2012/18/EU : ENVIRONMENTAL HAZARDS

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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SECTION 16: Other information

Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1

Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1

Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1

Skin Irrit. 2 - Skin irritation, hazard category 2

Skin Sens. 1 - Skin sensitisation, hazard category 1

STOT RE 2 - Specific Target Organ Toxicity — Repeated exposure, hazard category 2

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

Acute Tox. 3 - dermal - Acute toxicity, dermal, hazard category 3

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

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.