

SAFETY DATA SHEET

according to Regulations (EU) No.1907/2006 & Commission Regulation (EU) No 2015/830

1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide.HCl

05th November 2020
Version 9

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

1.1. Product identifier

Product name: **1-(3-Dimethylaminopropyl)-3-ethylcarbodiimide HCl**
(Water Soluble Carbodiimide, EDAC HCl)
Trade name, synonyms:
IUPAC name: **3-(Ethyliminomethylideneamino)-N,N-dimethylpropan-1-amine;hydrochloride**
CAS No.: 25952-53-8
EC No.: 247-361-2
REACH reg. No.: 01-2120762851-50-0001
Product No.: 3803-KL

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

Identified uses: Chemical in syntheses. Laboratory reagent.

1.3. Details of supplier of the safety data sheet

Supplier/Manufacturer: KEMILAB Organics Ltd.
H-8200 Veszprém, Zrínyi street 13/B; Hungary
Telephone: +36 30 226 4546;
Fax: +88 412 559
E-mail: kemilab@kemilab.hu

1.4. Emergency telephone number

Emergency telephone call number: See: <https://echa.europa.eu/support/helpdesks>
Availability: 24 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Acute Tox.	Category 4 – H302
Acute Tox.	Category 3 – H311
Skin Sens.	Category 1 – H317
Skin Irrit.	Category 2 – H315
Eye Irrit.	Category 2 – H319
STOT RE	Category 2 – H373
Aquatic Acute	Category 1 – H400
Aquatic Chronic	Category 1 – H410

2.2. Label elements

2.2.1 According to Regulation No. 1272/2008 (CLP)/EU

- Hazard pictograms:



- Signal word:

DANGER

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▪ Hazard statements:

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- H319 Causes serious eye irritation
- H373 May cause damage to stomach, intestine and trachea through prolonged or repeated exposure
- H410 Very toxic to aquatic life with long lasting effects

▪ Precautionary statements:

- P261 Avoid breathing dust/fume/gas/vapour/spray
- 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
Rinse mouth
- P302+P352 IF ON SKIN: Wash with plenty of water and soap.
- P337+P313 If eye irritation persists: Get medical advice/attention
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P362+P364 Take off contaminated clothing and wash it before reuse
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention

2.3. Other hazards

- Most important hazards: Harmful! Irritating to eyes, respiratory system and skin.
Specific hazards: In certain cases, it may cause sensitization by inhalation or contact with skin.

SECTION 3: Composition/information on ingredients

The name of the component	Formula/Molar mass	EC-No.	CAS No	Weight %
1-(3-Dimethylaminopropyl)-3-ethyl carbodiimide . HCl salt	CH ₃ CH ₂ N=C=N(CH ₂) ₃ N(CH ₃) ₂ . HCl salt Molar mass: 191,7 g/mol	247-361-2	25952-53-8	99+

SECTION 4: First aid measures

4.1. Description of first aid measures

- Protection of first aiders: Take appropriate steps to avoid every contact of the material. Instantly remove clothing soiled by the material.
- Inhalation: Move to fresh air. Keep patient warm. If rapid recovery does not occur, seek medical attention. Seek immediate medical advice in every case.
- Skin contact: Instantly wash affected skin with soap and plenty of water. Seek immediate medical advice.
- Eye contact: DO NOT DELAY. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If persistent irritation occurs, seek medical attention.
- Ingestion: DO NOT DELAY. Do not induce vomiting. Never give anything by mouth to an unconscious person. SEEK MEDICAL ATTENTION IMMEDIATELY.



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Note to physician: Treat symptomatically.

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

Damages to the eyes. Nausea, headache, vomiting. Causes severe corneal edema.

4.3. Indication of immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

For small fires use media such as „alcohol” foam, dry chemical or carbon dioxide. For large fires apply water spray as far as possible.

5.2. Special hazards arising from the substance or mixture

Carbon oxides and nitrogen oxides, HCl.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and chemical protective clothing.

Further information

Collect separately contaminated extinguishing water, do not allow to reach sewage or effluent system.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe the powder of the material. Avoid contact with skin, eyes and clothing.

Wear protective equipment. Keep unprotected persons away. Emergency services may be called to assist in this operation.

6.2. Environmental precautions

Prevent contamination of soil and water. If materials enters drains, it should be separated and pumped out into an open vessel. Emergency services may be called to assist in this operation.

6.3. Methods and material for containment and cleaning up

Do not flush away residues with water. Contain spillage and then collect with an electrically protected vacuum cleaner or wet-brushing and place in a container for disposal according to local regulations (see Section 13).

6.4. Reference to other sections

For disposal see Section 13.

SECTION 7: Handling and storage

7.2. Precautions for safe handling

Do not eat, drink or smoke when using it! Avoid contact with skin, eyes and clothing. Do not breath its powder. Prevent spills and avoid all operations which contaminate clothing and work areas. Ensure good ventilation/exhausting at the workplace. Avoid generation of powdering! Observe label precautions!

7.3. Conditions for safe storage, including any incompatibilities

Segregate from acids and strong oxidants! Keep away from humidity and water!! Keep container tightly closed in a cool, well-ventilated place. Proposed storage temperature: 2-8 C⁰ Some days storage at ambient temperature (for example during transport, not higher than 30⁰C) does not cause any damage in material.

Containers which are opened must be carefully inertised by Nitrogen then resealed and kept it upright to prevent leakage!

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7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits are not available. Apply it closed system!!!! Need a suitable ventilation!

8.2. Exposure controls

- **Eye/face protection:** Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- **Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose the contaminated gloves after use in accordance with applicable laws. Wash and dry hands. The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- **Body protection:** Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory protection:** Where risk assessment shows air purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEKP (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	White to off white powder.
b) Odour	Characteristic
c) Odour threshold	No data available
d) pH	6,5 – 7 in water solution (5m/m%)
e) Melting point	108 – 118 °C
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	Combustible
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	< 1,3 hPa at 20 °C
l) Vapour density	No data available
m) Relative density	~ 0,4 kg/liter
n) Water solubility	Soluble, hygroscopic
o) Partition coefficient: n-octanol/water	Log Pow 0,21 (calculated data) Bioaccumulation is not feasible.
p) Autoignition temperature	Not data available
q) Decomposition temperature	Not data available
r) Viscosity	Not data available
s) Explosive properties	Not data available
t) Oxidizing properties	Not data available

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9.2. Other information

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

It reacts with acids and acidic water!

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Humidity! Avoid heat!

10.5. Incompatible materials

Strong oxidizing materials, acids.

10.6. Hazardous decomposition products

No data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **Acute toxicity:**
LD50 intravenous 56 mg/kg on mouse
LD50 oral 500 mg/kg rat (OECD Test Guideline 423)
LD50 dermal >200 – 1.000 mg/kg rabbit, male and female (OECD Test Guideline 402)
- **Skin corrosion/irritation:**
Skin - Rabbit
Result: Severe skin irritation
(OECD Test Guideline 404)
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
May cause allergic skin reaction.
(OECD Test Guideline 429)
- **Germ cell mutagenicity**
No data available
Ames test
S. typhimurium
Result: positive
Chromosome aberration test in vitro
mouse lymphoma cells
Result: positive
(OECD Test Guideline 489)
Rat - male
Result: negative
- **Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0,1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **Reproductive toxicity:**
No data available

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- **Specific target organ toxicity – single exposure**
Not classified.
- **Specific target organ toxicity – repeated exposure**
Oral - May cause damage to organs through prolonged or repeated exposure. - Stomach, large intestine, lymph node
- **Aspiration hazards**
No data available
- **Potential health effects**
Inhalation: may be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: may be harmful if swallowed. Causes burns.
Skin: may be harmful if absorbed through skin. Causes skin burns.
Eyes: Causes eye burns and serious eye damage
- **Signs and Symptoms of exposure**
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
- **Additional information.** RTECS 2200000

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish static test LC50 - Cyprinus carpio (Carp) - 4,6 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 0,41 mg/l - 48 h (ISO 6341)

Toxicity to bacteria EC50 - activated sludge - > 347 - < 470 mg/l - 3 h (OECD Test Guideline 209)

H410 – Very toxic to aquatic life with long lasting effects

12.2. Persistence and degradability

Biodegradability aerobic Chemical oxygen demand - Exposure time 28 d

Result: < 5 % - Not readily biodegradable. (OECD Test Guideline 301F)

12.3. Bioaccumulative potential

Log Pow 0,21 (calculated data)

Bioaccumulation is not feasible.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product. Burn in a chemical incinerator equipped with an afterburner and scrubber in accordance with the requirements of local Waste Disposal Authority.

Contaminated packaging: Dispose of as unused product.

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SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	UN 2811
UN No. (IMDG)	UN 2811
UN No. (ICAO)	UN 2811
UN No. (ADN)	UN 2811

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	TOXIC SOLID, ORGANIC, N.O.S. (1-(3-(Dimethylamino)propyl)-3-ethylcarbodiimide hydrochloride)
Proper shipping name (IMDG)	TOXIC SOLID, ORGANIC, N.O.S. (1-(3-(Dimethylamino)propyl)-3-ethylcarbodiimide hydrochloride)
Proper shipping name (ICAO)	Toxic solid, organic, n.o.s. (1-(3-(Dimethylamino)propyl)-3-ethylcarbodiimide hydrochloride)
Proper shipping name (ADN)	Toxic solid, organic, n.o.s. (1-(3-(Dimethylamino)propyl)-3-ethylcarbodiimide hydrochloride)

14.3. Transport hazard class(es)

ADR/RID class	6.1
IMDG class	6.1
ICAO class/division	6.1
ADN class	6.1

Transport labels:



14.4. Packing group

ADR/RID	III
IMDG	III
ICAO	III
ADN	III

14.5. Environmental hazards

ADR/RID	Yes
IMDG	Marine pollutant
ICAO	No
ADN	Yes

14.6. Special precautions for user

No data available

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SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulations (EC) No.: 1907/2006 and 2015/830

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

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

16.1. Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists IARC - International Agency for Research on Cancer
ADN	The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	Accord europeen sur le transport des marchandises dangereuses par Route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS	Chemical abstract Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CLP	Classification, Labelling and Packaging
EC50	Effective Concentration 50%
EINECS/ELINCS	European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
Ems	Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ICAO/IATA	International Civil Aviation Organization/International Air Transport Association
IMO/IMDG	International Maritime Organization/International Maritime Dangerous Goods Code
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
MARPOL	International Convention for the Prevention of Pollution from Ships
NIOSH	National Institute for Occupational Safety and Health
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative
POW	Partition coefficient Octanol:Water
RID	Reglement interntional conRegulation Concerning the cemant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Dangerous Goods by Rail)
RPE	Respiratory Protective Equipment
RTECS	Registry of Toxic Effects of Chemical Substances
Toxic yPyB	very Persistent, very Bioaccumulative
TSCA	United States Toxic Substances Control Act Section 8(b) Inventory
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
WEL	Workplace Exposure Limit



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16.2. Hazard statements in full:

- H302 Harmful if swallowed
- H311 Toxic in contact with skin
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H319 Causes serious eye irritation
- H373 May cause damage to stomach, intestine and trachea through prolonged or repeated exposure
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects

16.3. Version: This is the version 9 and valid from 06th of November 2020. Changes from the previous version by the reinvestigation version 8:

Some of new toxicological data were available which are introduced into 11.1 point of this SDS. As consequence of these the ADR classification changed from NOT DANGEROUS GOODS to DANGEROUS GOODS (see Section 14).

16.4. Further information: The information in this document should be available to all who may handle the product. The information contained herein based on the present state of our knowledge. 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.

END OF DOCUMENT