

Safety Data Sheet
 acc. to OSHA HCS

Page 1/9

Printing date 10/06/2016
 Reviewed on 10/06/2016
 Version number: 2

1 Identification

- **Product identifier**
- **Trade name:** N-Ethylmaleimide BioChemica
- **Article number:** A2251
- **CAS Number:**
128-53-0
- **EC number:**
204-892-4
- **Index number:** None
- **Application of the substance / the mixture**
Biochemistry
Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570
 Fax.: +49 (0)6151 935711
 msds@applichem.com

2 Hazard(s) identification

- **Classification of the substance or mixture**
 Acute Tox. 2 H300 Fatal if swallowed.
 Acute Tox. 3 H311 Toxic in contact with skin.
 Skin Corr. 1B H314 Causes severe skin burns and eye damage.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
- **Label elements**
- **GHS label elements**
 The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS06 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
N-ethylmaleimide
- **Hazard statements**
 H300 Fatal if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
- **Precautionary statements**
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P262 Do not get in eyes, on skin, or on clothing.
 P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

(Contd. on page 2)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
128-53-0 N-ethylmaleimide
- **Identification number(s)**
- **EC number:** 204-892-4

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Involve doctor immediately.
- **After inhalation:**
Take affected persons into fresh air and keep quiet.
If breathing stops: mouth-to-mouth respiration or mechanical ventilation, oxygen mask if necessary.
Immediately call a physician.
- **After skin contact:**
Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
Nitrogen oxides (NOx)

(Contd. on page 3)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 2)

CO, CO2

· **Advice for firefighters**

· **Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust.

Do not inhale dust.

Wear protective equipment. Keep unprotected persons away.

Avoid substance contact.

Ensure adequate ventilation

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Pick up mechanically.

Avoid generation of dusts.

Ensure adequate ventilation.

Clean up affected area.

Dispose of the collected material according to regulations.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Thorough dedusting.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Any deposit of dust which cannot be avoided must be regularly removed.

· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Open receptacle only under localized extractor facilities.

Store under lock and key and with access restricted to technical experts or their assistants only.

Accessible for authorised persons only.

· **Recommended storage temperature:** 2-8 °C

· **Storage class:** 6.1 A

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:** Not required.

(Contd. on page 4)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 3)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Vacuum clean contaminated clothing. Do not blow or brush off contamination.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Required when dusts are generated.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

Use protective suit.

Full head, face and neck protection

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solid

Color: Colorless

· **Odor:** Characteristic

(Contd. on page 5)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 4)

- **pH-value:** Not applicable.
- **Change in condition**
Melting point/Melting range: 43-45 °C (109-113 °F)
Boiling point/Boiling range: 210 °C (410 °F)
- **Flash point:** 73 °C (163 °F)
- **Flammability (solid, gaseous):** Product is not flammable.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
Lower: Not determined.
Upper: Not determined.
- **Vapor pressure:** Not applicable.
- **Density at 20 °C (68 °F):** 0.33 g/cm³ (2.754 lbs/gal)
- **Solubility in / Miscibility with Water:** Insoluble.
- **Viscosity:**
Dynamic: Not applicable.
Kinematic: Not applicable.
- **Solvent content:**
Organic solvents: 0.0 %
VOC content: 0.0 g/l / 0.00 lb/gl
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
128-53-0 N-ethylmaleimide			
Oral	LD50	25 mg/kg	(rat)

- **Primary irritant effect:**
- **on the skin:** No data available
- **on the eye:** No data available.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
 Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 6)

US

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 5)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 3 (Assessment by list): extremely hazardous for water

Danger to drinking water if even extremely small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Chemicals must be disposed of in compliance with the respective national regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:**

Disposal must be made according to official regulations.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN2928

· **UN proper shipping name**

· **DOT, ADR**

· **IMDG, IATA**

Toxic solids, corrosive, organic, n.o.s. (N-ethylmaleimide)

TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (N-ethylmaleimide)

· **Transport hazard class(es)**

· **DOT**



· **Class**

6.1 Toxic substances

(Contd. on page 7)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 6)

· **Label** 6.1, 8

· **ADR**



· **Class**

6.1 (TC2) Toxic substances

· **Label**

6.1+8

· **IMDG**



· **Class**

6.1 Toxic substances

· **Label**

6.1/8

· **IATA**



· **Class**

6.1 Toxic substances

· **Label**

6.1 (8)

· **Packing group**

· **DOT, ADR, IMDG, IATA**

II

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Toxic substances

· **Danger code (Kemler):**

68

· **EMS Number:**

F-A,S-B

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **IMDG**

· **Limited quantities (LQ)**

500 g

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN 2928 TOXIC SOLIDS, CORROSIVE, ORGANIC, N.O.S. (N-ETHYLMALEIMIDE), 6.1 (8), II

US

(Contd. on page 8)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 7)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS06 GHS07

- **Signal word Danger**

- **Hazard-determining components of labeling:**

N-ethylmaleimide

- **Hazard statements**

H300 Fatal if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P262 Do not get in eyes, on skin, or on clothing.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

(Contd. on page 9)

Trade name: N-Ethylmaleimide BioChemica

(Contd. of page 8)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Contact:** Mr. Th. Stöckle
- **Date of preparation / last revision** 10/06/2016 / 1

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Sens. 1: Skin sensitisation – Category 1