

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 2/24/2021 Revision date: 9/12/2023 Supersedes version of: 7/11/2023 Version: 5.0

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

1.1. Product identifier

Product form : Mixture

Deprotection, Ultramild (Ammonium Hydroxide / Ethanol, V / V = 75 : 25) Trade name

HEI : N5T2-W0C2-A007-7WKV

Product code NC-0904

: Synthesis Reagent, Solvents Type of product

Product group : End product

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

1.2.1. Relevant identified uses

Main use category : Industrial use,Laboratory chemical

Industrial/Professional use spec Industrial

> For professional use only : Laboratory chemicals

Substance manufacture

Laboratory chemicals

1.2.2. Uses advised against

Function or use category

Use of the substance/mixture

No additional information available

1.3. Details of the supplier of the safety data sheet

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info@empbiotech.com - www.empbiotech.com

1.4. Emergency telephone number

: Giftnotruf Berlin +49 30 30686700 (Beratung in Deutsch), 24 Stunden, 7 Tage/Woche; Emergency number

International: INFOTRAC +1-352-323-3500 (Phone) or in the US 800-535-5053 (toll-free),

24 hours/day, 7 days/week

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225 Skin Irrit. 2 H315 Eye Dam. 1 H318 Aquatic Acute 1 H400 Aquatic Chronic 3 Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP) : Danger

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P233 - Keep container tightly closed. P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, eye protection, face protection.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with 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.

2.3. Other hazards

Other hazards which do not result in classification

: This substance / mixture does not contain any components of 0.1% or higher that are either classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Ethanol (64-17-5)	
Ammonia solution (30-33%) (1336-21-6)	

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Ammonia solution (30-33%)(1336-21-6)	The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethanol	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610- 43-XXXX	15 – 40	Flam. Liq. 2, H225
Ammonia solution (30-33%)	CAS-No.: 1336-21-6 EC-No.: 215-647-6 EC Index-No.: 007-001-01-2 REACH-no: 01-2119488876- 14-XXXX	60 - 85	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
Ammonia solution (30-33%)	CAS-No.: 1336-21-6 EC-No.: 215-647-6 EC Index-No.: 007-001-01-2 REACH-no: 01-2119488876- 14-XXXX	(5 ≤ C < 100) STOT SE 3, H335

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a doctor. Show this safety data sheet to the doctor in attendance.

First-aid measures after inhalation : Move person to fresh air and ensure comfortable breathing. Give oxygen or artificial

respiration if necessary. Ask for medical advice.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash

immediately with plenty of water. Ask for medical advice.

First-aid measures after eye contact : Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses, if

possible. Continue rinsing. Ask for medical advice.

First-aid measures after ingestion : Do not give an unconscious person anything to drink. Do NOT induce vomiting. Rinse

mouth out with water. Ask for medical advice.

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

Symptoms/effects : The most important known symptoms and effects are described on the label (see 2.2) and / or in section 11.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, alcohol-resistant foam or waterspray.

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5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Hazardous decomposition products formed under fire conditions. - Carbon oxides. Nitrous

gases (NOx).

5.3. Advice for firefighters

Protection during firefighting : Wear self-contained breathing apparatus for firefighting if necessary.

Other information : Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : For personal protection see section 8.

Emergency procedures : Avoid breathing vapours, mist, gas, spray. Remove all sources of ignition. Ensure adequate

ventilation, observe emergency procedures, consult an expert. Evacuate area. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations.

Vapours can accumulate in low areas.

6.1.2. For emergency responders

Protective equipment : Wear recommended personal protective equipment.

6.2. Environmental precautions

Do not allow to enter drains or water courses. Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with an electrically protected vacuum cleaner or by

wet⊡brushing and place in container for disposal according to local regulations (see section 13).

6.4. Reference to other sections

Information on exposure controls/personal protective equipment and on Instructions for disposal can be found in sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use under laboratory hood. Avoid contact with skin and eyes. Avoid breathing vapours,

mist, gas, spray. Keep away from sources of ignition - No smoking. Take precautionary

measures against static discharge.

Hygiene measures : Apply preventive skin protection. Wash hands and other exposed areas with mild soap and

water before eating, drinking or smoking and when leaving work. Take off immediately all contaminated clothing and wash it before reuse. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed in a well-ventilated, dry place. Store in cool place. Containers

which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Ammonia can escape at room temperature. Use closures with aeration valve. May develop pressure. Refrigerate before opening. Handle and open container with care.

Storage area : Storage class (TRGS 510): See section 15.1.2.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Ethanol (64-17-5)		
Germany - Occupational Exposure Limits (TRGS 900)		
Local name	Ethanol	
AGW (OEL TWA) [1]	960 mg/m³	
AGW (OEL TWA) [2]	500 ppm	
Remark	DFG,Y	
Ammonia solution (30-33%) (1336-21-6)		
Germany - Occupational Exposure Limits (TRGS 900)		
AGW (OEL TWA) [1]	14 mg/m³	
AGW (OEL TWA) [2]	20 ppm Remark: Skin resorptive: There is no reason to fear a risk of damage to the developing embryo or foetus when AGW and BGW are adhered to. Source: DFG, EU	

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):









8.2.2.1. Eye and face protection

Eye protection:

Wear eye protection. Wear closed safety glasses. EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Flame retardant antistatic protective clothing

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Hand protection:

Wear protective gloves. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

. Full contact-Material: butyl-rubber Minimum layer thickness: 0,3 mm

Break through time: 480 min. Splash contact-material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 120 min 8.2.2.3. Respiratory protection

Respiratory protection:

Wear respiratory protection. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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 must be tested and approved under appropriate government standards such as NIOSH (U.S.) or EN (EU).

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment. Do not let product enter drains. Prevent further leakage or spillage if safe to do so.

: Not available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid Colour : Colourless. Appearance : Clear. Odour Acrid Odour threshold Not available : Not available Melting point : Not available Freezing point Boiling point : Not available Flammability : Not available Lower explosion limit : Not available Upper explosion limit : Not available : Not available Flash point Auto-ignition temperature : Not available Decomposition temperature : Not available : Not available pН

Solubility : Water: Completely soluble

Partition coefficient n-octanol/water (Log Kow) : Not available Vapour pressure : Not available Vapour pressure at 50 °C : Not available Density : Not available Relative density : Not available Relative vapour density at 20 °C : Not available Particle characteristics : Not applicable

9.2. Other information

Viscosity, kinematic

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under the specified storage conditions.

10.3. Possibility of hazardous reactions

Risk of explosion in contact with:

Strong acids

lodine

The substance can react dangerously with:

Strong bases.

10.4. Conditions to avoid

heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Oxidizing agent. Iron, Copper. Zinc. Alkali metals. Aldehydes. Peroxides. Halogens. Cadmium/ Cadmium oxide. Silver/ Silver oxides.

10.6. Hazardous decomposition products

In the event of fire: see section 5.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified

Ethanol (64-17-5)	
LD50 oral rat	7060 mg/kg - Toxicology and Applied Pharmacology. Vol. 16, Pg. 718, 1970.
Ammonia solution (30-33%) (1336-21-6)	
LD50 oral rat	350 mg/kg Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941.

Skin corrosion/irritation : Causes skin irritation.

Ethanol (64-17-5)	
рН	7 at 20 °C; 10 g/l
Ammonia solution (30-33%) (1336-21-6)	
рН	12 at 20 °C.

Schous eye damaye/iintation . Gauses schous eye damay	Serious eye damage/irritation	: Causes serious eye damage.
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Ethanol (64-17-5)	
рН	7 at 20 °C; 10 g/l
Ammonia solution (30-33%) (1336-21-6)	
pH	12 at 20 °C.
Respiratory or skin sensitisation : Not classified	

Germ cell mutagenicity : Not classified

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Carcinogenicity : Not classified

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Deprotection, Ultramild (Ammonium Hydroxide / Ethanol, V / V = 75 : 25)			
IARC group	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.		
Ethanol (64-17-5)			
IARC group	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.		
Ammonia solution (30-33%) (1336-21-6)			
IARC group	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 :	Not classified		
STOT-single exposure :	Not classified		
STOT-repeated exposure :	Not classified		
Aspiration hazard :	Not classified		

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH article 57(f) or commission delegated regulation (EU) 2017/2100 or commission regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

Potential adverse human health effects and symptoms

Other information

- : Depression of the central nervous system, nacosis, nausea, dizziness, damage to the heart. Liver - Irregularities - Based on Evidence in Humans (Ammonia)
- : To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term

(acute)

: Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term

: Harmful to aquatic life with long lasting effects.

(chronic)

Ethanol (64-17-5)	
LC50 - Fish [1]	42 – 14200 mg/l - Bengtsson, B.E., L. Renberg, and M. Tarkpea 1984.
EC50 - Crustacea [1]	9950 (2 – 17500) mg/l - Barera, Y., and W.J. Adams 1983. Resolving Some Practical Questions About Daphnia Acute Toxicity Tests.
ErC50 algae	275 mg/l Static test ErC50 - Chlorella vulgaris (Fresh water algae) - 72 h (OECD Test Guideline 201)

12.2. Persistence and degradability

Ethanol (64-17-5)	
Biochemical oxygen demand (BOD)	0.93 – 1.67 g O₂/g substance
ThOD	2.1 g O ₂ /g substance
Biodegradation	≈ 95 % - Aerobic - Exposure time 15 d Result: Readily biodegradable. (OECD Test Guideline 301E)

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12.3. Bioaccumulative potential

Ethanol (64-17-5)	
Partition coefficient n-octanol/water (Log Kow)	-0.3
Bioaccumulative potential	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Ethanol (64-17-5)	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ammonia solution (30-33%) (1336-21-6)	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH article 57(f) or commission delegated regulation (EU) 2017/2100 or commission regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

Other adverse effects

: Discharge into the environment must be avoided. Very toxic to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Product/Packaging disposal recommendations

: Contaminated packaging to be disposed as unused product.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA		
14.1. UN number or ID number				
UN 2924	UN 2924	UN 2924		
14.2. UN proper shipping name				
FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Mixture of conc. Ammonia and Ethanol)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Mixture of conc. Ammonia and Ethanol)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Mixture of conc. Ammonia and Ethanol)		
14.3. Transport hazard class(es)				
3 (8)	3 (8)	3 (8)		

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ADR	IMDG	IATA
3 8	3 8	
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no REACH substances with Annex XVII restrictions

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

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Seveso Directive (Disaster Risk Reduction)

Seveso Additional information : Seveso III: Directive 2012/18/EU of the

European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

: FLAMMABLE LIQUIDS

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

15.1.2. National regulations

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).

Observe restrictions according Act on the Protection of Young People in Employment

(JArbSchG)

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).

WGK remark : internal company classification. Storage class (LGK, TRGS 510) : LGK 3 - Flammable liquids.

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H- and EUH-statements:		
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2	
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1	
Flam. Liq. 2	Flammable liquids, Category 2	
H225	Highly flammable liquid and vapour.	
H314	Causes severe skin burns and eye damage.	
H315	Causes skin irritation.	
H318	Causes serious eye damage.	
H335	May cause respiratory irritation.	
H400	Very toxic to aquatic life.	
H411	Toxic to aquatic life with long lasting effects.	
H412	Harmful to aquatic life with long lasting effects.	
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.