

Safety Data Sheet
according to EC-Regulation 91/155/EEC

1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

Trockenbrennstoff "Esbit"

Use of the substance/preparation
Refer to description of material or preparation.

Company/undertaking identification
KHT GmbH, An der Waldstraße 1, D -08233 Treuen / Vogtl.
Telephone +49 (0)37468 / 608 - 0, Fax +49 (0)37468 / 608 - 10

Emergency telephone / Office for advice
Advisory office in case of poisoning:
Tel.:
Telephone number of the company in case of emergencies:
Tel. +49 (0)37468 / 608 - 0

2. Composition/information on ingredients

2.1 Chemical name	content %	symbol	R-phrases	EINECS, ELINCS
Methanamine	80 - 100	F	11-42/43	202-905-8
For complete wording of the R-phrases, refer to point 16.				

3. Hazards identification

3.1 To people
See point 11 and 15.
Preparation is classified as hazardous in the sense of directive 1999/45/EC.
Product is highly flammable.
Product results in a sensitizing effect.

3.2 To the environment
See point 12.

4. First aid measures

4.1 Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
Keep Data Sheet available.

4.2 Eye contact
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.
Keep Data Sheet available.

4.3 Skin contact
Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.
Keep Data Sheet available.

4.4 Ingestion
Call doctor immediately - have Data Sheet available.

4.5 Special resources necessary for first aid
Indications for the physician:
Delayed effects from exposure can be expected.

5. Fire-fighting measures

5.1 Suitable extinguishing media
Alcohol resistant foam
CO2
Water jet spray

5.2 Extinguishing media which must not be used for safety reasons
n.c.

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
In case of fire the following can develop:
Formaldehyde
Ammonia
Nitro gases
Hydrocyanic acid (hydrogen cyanide)

5.4 Special protective equipment for fire-fighters
Protective respirator with independent air supply
According to size of fire
Chemical protection suit

5.5 Further information
Dispose of contaminated extinction water according to official regulations.

6. Accidental release measures

Refer to point 13. and for personal protection refer to point 8.

6.1 Personal precautions
Avoid build up of dust.
Ensure sufficient supply of air.
Avoid inhalation, and contact with eyes or skin.

6.2 Environmental measures
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods for cleaning up
Collect mechanically and dispose of according to point 13.
Flash residue using copious water.

7. Handling and storage

7.1 Handling
Tips for safe handling:
See point 6.1
Ensure good ventilation.
Avoid build up of dust.
Avoid contact with eyes or skin.
Keep away from sources of ignition - Do not smoke.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.
No contact with products of this type in case of allergies, asthma and chronic respiratory tract disorders.

7.2. Storage**Requirements for storage rooms and containers:**

Store products only unopened, in original packing.
Not to be stored in gangways or stair wells.
Observe regulations for keeping separated.

Special storage conditions:

Protect against moisture and store closed.

8. Exposure controls/personal protection

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

CEP	Chemical Name	general dust limit	WEL-TWA	WEL-STEL	Other information
			10 mg/m3 (Inhal. dust), 4 mg/m3 (respir. dust)	---	---
			---		Other information: ---

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. SK = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.1 Respiratory protection:

Normally not necessary.

On dust formation:

Breathing mask with fine dust filter necessary (EN 143).

8.2 Hand protection:

Rubber gloves (EN 374).

8.3 Eye protection:

Normally not necessary.

8.4 Skin protection:

Protective working garments (e.g. safety shoes EN 344, long-sleeved protective working garments)

Additional information on hand protection - No tests have been performed.

Selection made for preparations according to the best available knowledge and information on the ingredients.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates

and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics

and varies from manufacturer to manufacturer.

In the case of preparations the resistance of glove materials cannot be calculated in advance

so it has to be tested before use. The exact breakthrough time of the glove material can be

requested from the protective glove manufacturer and must be observed.

9. Physical and chemical properties

Physical state:	Solid
Colour:	White
Odour:	Ammonia
10 % pH-value:	n.av.
Boiling point/range (°C):	n.av.
Melting point/range (°C):	280 (subl.)
Flash point (°C):	n.c.
Flammability (solid/gas):	n.c.
Ignition temperature:	390°C
Autoflammability:	n.c.
Minimum limit of explosion:	n.a.
Maximum limit of explosion:	n.a.
The product is capable of causing a dust explosion.	
20 mg/m ³	
Density (g/ml):	1,33
Bulk density:	n.c.
Solubility in water:	100 - 874 g/l/20°C, 844 g/l/60°C
Vapour density (air = 1):	4,64, References
Miscibility:	Chloroform, Alcohol

10. Stability and reactivity**10.1 Conditions to avoid**

Stable when handled and stored correctly.

Protect from humidity.

Strong heat

10.2 Materials to avoid

Contact with strong acids leads to strong exothermic reaction.

Avoid contact with oxidizing agents.

Peroxides

Aluminium

Tin

Zinc

Halogen halides

10.3 Hazardous decomposition products

See point 5.3

Formaldehyde

11. Toxicological information**11.1 Acute toxicity and immediate effects**

Ingestion, LD50 rat oral (mg/kg): 9200, (Particulars of main substances contained)

Inhalation, LC50 rat inhal.(mg/4h): n.av.

Skin contact, LD50 rat dermal (mg/kg): n.av.

Eye contact: n.av.

11.2 Delayed and chronic effects

Sensitization: Yes (inhalation and skin contact)

Carcinogenicity: n.c.

Mutagenicity: n.c.

Reproductive toxicity: n.c.

Narcosis: n.c.

11.3. Further information

Classification according to calculation procedure.

The following may occur:

In case of sensibility, concentrations below the limit value may already result in asthmatic symptoms.

Irritation of the eyes

Inhalation:

Irritant to mucosa of the nose and throat.

Coughing

Respiratory distress

Ingestion:

Nausea

Exhibit

Vomiting
Gastrointestinal disturbances
Kidney damage

12. Ecological information

Water hazard class (Germany): 1
Self classification: Yes (VwVwS)
Persistence and degradability:
Abiotically degradable.
Not readily biodegradable
In case of contact with water:
Hydrolysis
Behaviour in sewage plants: n.av.
Aquatic toxicity:
Toxicity to fish:
LC50/96h 49 800mg/l *Pimephales promelas* *
Toxic to marine organisms:
NOEC/336h 1500 mg/l *Selenastrum capricornutum* *
Escherichia coli TGR/12h 500 mg/l *
Ecological toxicity: n.av.
* Methenamine

13. Disposal considerations**13.1. for the material / preparation / residue**

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)
07 07 99 wastes not otherwise specified
07 01 99 wastes not otherwise specified
Recommendation:
Pay attention to local and national official regulations
E.g. dispose at suitable refuse site.
E.g. suitable incineration plant.

13.2 for contaminated packing material

See point 13.1.
Pay attention to local and national official regulations
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
15 01 01 paper and cardboard packaging
15 01 02 plastic packaging

14. Transport information**General statements**

UN-Number: 1328
Road/Rail-transport (ADR/RID)
Class/packing-group: 4.1/III
Classification code: F1
LQ: 9
Transport by sea
IMDG-code: 4.1/III (class/packing-group)
EMs: F-A, S-G
Marine Pollutant: n.a.
HEXAMETHYLENETETRAMINE, MIXTURE
Transport by air
IATA: 4.1-/III (class/secondary danger/packing-group)
Hexamethylenetetramine mixture
Additional information:
Danger code and packing code on request.

**15. Regulatory information****Classification according to Dangerous Product Regulations incl. EC Directives (67/548/EEC and 1999/45/EC)**

Symbols: F+/Xn
Indications of danger:
Highly flammable
Harmful
R-phrases:
11 Highly flammable.
42/43 May cause sensitization by inhalation and skin contact.
S-phrases:
(2) Keep out of the reach of children.
22 Do not breathe dust.
24 Avoid contact with skin.
35 This material and its container must be disposed of in a safe way.
37 Wear suitable gloves.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Additions:
Methenamine
Observe restrictions: Yes
Observe youth employment law (German regulation).
Observe law on protection of expectant mothers (German regulation).
Observe restrictive guidelines 76/769/EEC, 1999/51/EC, 1999/77/EC

**16. Other information**

These details refer to the product as it is delivered.
Storage class VCI (Germany): 4.1 B
Revised points: 15
Hommel: 870
The following phrases represent the prescribed R-phrases for the ingredients (designated in point 2).
11 Highly flammable.
42/43 May cause sensitization by inhalation and skin contact.

Legend:

n.a. = not applicable / n.v., k.d.v. = n.av. = not available / n.g. = n.c. = not checked
WEL = Workplace Exposure Limit EH40, TWA = Long-term exposure limit (8-hour TWA (= time weighted average) reference period), STEL = Short-term exposure limit (15-minute reference period) / BMGV = Biological monitoring guidance value EH40
AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany) / BGW = "Biologischer Grenzwert" (biological limit value, Germany)
VwV = Regulations for flammable liquids (Austria)
WGK = water hazard class (Germany) - WGK 3 = very hazardous, WGK 2 = hazardous, WGK 1 = slightly hazardous to water
VOC = Volatile organic compounds / AOX = Adsorbable organic halogen compounds
VwVwS = Administrative Order relating to substances hazardous to water (Germany)



4 / 4

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Fazit

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.

These statements were made by:

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