

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1 Product identifier**

**Mirapor Set**  
**Article number: 605113, 605119**  
**UFI: 8NU1-TRWY-A10D-Y0VG**

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

Separating agent

**1.2.2 Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**

**Company** Hager & Werken GmbH & Co. KG  
 Ackerstr. 1  
 47269 Duisburg / GERMANY  
 Phone +49(0)203-99269-0  
 Fax +49 (0)203 29 92 83  
 Homepage [www.hagerwerken.de](http://www.hagerwerken.de)  
 E-mail [info@hagerwerken.de](mailto:info@hagerwerken.de)

**Address enquiries to**

**Technical information** [info@hagerwerken.de](mailto:info@hagerwerken.de)

**Safety Data Sheet** [sdb@chemiebuero.de](mailto:sdb@chemiebuero.de)

**1.4 Emergency telephone number**

**Advisory body** Call NHS 111 or a doctor

**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture [REGULATION (GB) CLP]**

Flam. Liq. 3: H226 Flammable liquid and vapour.  
 Eye Irrit. 2: H319 Causes serious eye irritation.  
 Skin Irrit. 2: H315 Causes skin irritation.

**2.2 Label elements**

The product is required to be labelled in accordance with regulation CLP.

**Hazard pictograms**

**Signal word**

WARNING

**Hazard statements**

H226 Flammable liquid and vapour.  
 H319 Causes serious eye irritation.  
 H315 Causes skin irritation.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P280 Wear protective gloves / eye protection.  
 P337+P313 If eye irritation persists: Get medical advice / attention.  
 P332+P313 If skin irritation occurs: Get medical advice / attention.  
 P501 Dispose of contents/container in accordance with local/national regulation.

**2.3 Other hazards**
**Environmental hazards**

Does not contain any PBT or vPvB substances.  
 Contains no ingredients with endocrine-disrupting properties.

**Other hazards**

Further hazards were not determined with the current level of knowledge.

### SECTION 3: Composition / Information on ingredients

#### 3.1 Substances

not applicable

#### 3.2 Mixtures

The product is a mixture.

Range [%]	Substance
25 - <50	Ethanol CAS: 64-17-5, EINECS/ELINCS: 200-578-6, EU-INDEX: 603-002-00-5, Reg-No.: 01-2119457610-43-XXXX GHS/CLP: Flam. Liq. 2: H225 - Eye Irrit. 2: H319 SCL [%]: >= 50: Eye Irrit. 2: H319
0,5 - <2	Sodium hydroxide CAS: 1310-73-2, EINECS/ELINCS: 215-185-5, EU-INDEX: 011-002-00-6, Reg-No.: 01-2119457892-27-XXXX GHS/CLP: Met. Corr. 1: H290 - Skin Corr. 1A: H314 - Eye Dam. 1: H318 SCL [%]: 0,5 - <2: Eye Irrit. 2: H319, >= 5: Skin Corr. 1A: H314, 2 - <5: Skin Corr. 1B: H314, 0,5 - <2: Skin Irrit. 2: H315

#### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
For full text of H-statements: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

Change soaked clothing.

##### Inhalation

Ensure supply of fresh air.  
In the event of symptoms seek medical treatment.

##### Skin contact

When in contact with the skin, clean with soap and water.  
Consult a doctor if skin irritation persists.

##### Eye contact

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

##### Ingestion

Seek medical advice immediately.  
Do not induce vomiting.  
Rinse out mouth and give plenty of water to drink.

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

Irritant effects

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

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Carbon dioxide.  
Water spray jet.  
Dry powder.  
Alcohol-resistant foam.

##### Extinguishing media that must not be used

Full water jet.

#### 5.2 Special hazards arising from the substance or mixture

risk of formation of toxic pyrolysis products, carbon monoxide (CO), not combusted hydrocarbons

#### 5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.  
Ensure adequate ventilation.  
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

### 6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. general-purpose binder).  
Dispose of absorbed material in accordance with the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use only in well-ventilated areas.  
Vapours can form an explosive mixture with air.  
Keep away from all sources of ignition - Refrain from smoking.  
Take precautionary measures against static discharges.  
Ignitable mixtures can be formed in the empty container.  
Do not eat, drink, smoke or take drugs at work.  
Wash hands before breaks and after work.  
Use barrier skin cream.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.  
Do not store together with oxidizing agents.  
Keep container in a well-ventilated place.  
Keep container tightly closed.  
Protect from heat/overheating and from sun.

### 7.3 Specific end use(s)

See product use, SECTION 1.2

**SECTION 8: Exposure controls / personal protection**
**8.1 Control parameters**
**Ingredients with occupational exposure limits to be monitored (GB)**

Substance
Ethanol
CAS: 64-17-5, EINECS/ELINCS: 200-578-6, EU-INDEX: 603-002-00-5, Reg-No.: 01-2119457610-43-XXXX
Long-term exposure: 1000 ppm, 1920 mg/m <sup>3</sup>
Sodium hydroxide
CAS: 1310-73-2, EINECS/ELINCS: 215-185-5, EU-INDEX: 011-002-00-6, Reg-No.: 01-2119457892-27-XXXX
Short-term exposure (15-minute): 2 mg/m <sup>3</sup>

**DNEL**

Substance
Ethanol, CAS: 64-17-5
Industrial, inhalative (vapor), Long-term - systemic effects, 950 mg/m <sup>3</sup>
Industrial, dermal, Long-term - systemic effects, 343 mg/kg bw/d
general population, inhalative (vapor), Acute - local effects, 950 mg/m <sup>3</sup>
general population, inhalative (vapor), Long-term - systemic effects, 114 mg/m <sup>3</sup>
general population, dermal, Long-term - systemic effects, 206 mg/kg bw/d
general population, oral, Long-term - systemic effects, 87 mg/kg bw/d
Sodium hydroxide, CAS: 1310-73-2
Industrial, inhalative, Long-term - local effects, 1,0 mg/m <sup>3</sup>
general population, inhalative, Long-term - local effects, 1,0 mg/m <sup>3</sup>

**PNEC**

Substance
Ethanol, CAS: 64-17-5
soil, 0,63 mg/kg
sediment (freshwater), 3,6 mg/kg
seawater, 0,79 mg/l
freshwater, 0,96 mg/l
oral (food), 0,38 g/kg
sediment (seawater), 2,9 mg/kg
sewage treatment plants (STP), 580 mg/l

## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	Safety glasses. (EN 166:2001)
<b>Hand protection</b>	0,7 mm Nitrile rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	No special measures necessary.
<b>Other</b>	Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter A. (DIN EN 14387)
<b>Thermal hazards</b>	See SECTION 7.
<b>Delimitation and monitoring of the environmental exposition</b>	not determined

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	liquid
<b>Color</b>	yellowish
<b>Odor</b>	characteristic
<b>Odour threshold</b>	not determined
<b>pH-value</b>	11,5 - 12
<b>pH-value [1%]</b>	not determined
<b>Boiling point [°C]</b>	>80
<b>Flash point [°C]</b>	>21
<b>Flammability (solid, gas) [°C]</b>	not determined
<b>Lower explosion limit</b>	not determined
<b>Upper explosion limit</b>	not determined
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	not determined
<b>Density [g/cm<sup>3</sup>]</b>	0,917 - 0,926
<b>Relative density</b>	not determined
<b>Bulk density [kg/m<sup>3</sup>]</b>	not applicable
<b>Solubility in water</b>	miscible
<b>Solubility other solvents</b>	No information available.
<b>Partition coefficient [n-octanol/water]</b>	not determined
<b>Kinematic viscosity</b>	not determined
<b>Relative vapour density</b>	not determined
<b>Evaporation speed</b>	not determined
<b>Melting point [°C]</b>	not determined
<b>Auto-ignition temperature</b>	not determined
<b>Decomposition temperature [°C]</b>	not applicable
<b>Particle characteristics</b>	No information available.

### 9.2 Other information

none

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Formation of explosive gas/air mixtures.

### 10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

### 10.3 Possibility of hazardous reactions

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

Reactions with oxidizing agents.

Reactions with strong acids.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Strong acids.

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

**SECTION 11: Toxicological information**
**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute oral toxicity** Based on available data, the classification criteria are not met.

Product
ATE-mix, oral, >2000 mg/kg bw
Substance
Ethanol, CAS: 64-17-5
LD50, oral, Rat, 10470 mg/kg (OECD 401)
Sodium hydroxide, CAS: 1310-73-2
LDLo, oral, Rat, 500 mg/kg bw

**Acute dermal toxicity** Based on available data, the classification criteria are not met.

Product
ATE-mix, dermal, >2000 mg/kg bw
Substance
Ethanol, CAS: 64-17-5
LD50, dermal, Rabbit, > 2000 mg/kg (OECD 402)

**Acute inhalational toxicity** Based on available data, the classification criteria are not met.

Product
ATE-mix, inhalation (vapour ), >20 mg/L
Substance
Ethanol, CAS: 64-17-5
LC50, inhalative, Rat, 117-125 mg/l/4h (OECD 403)

**Serious eye damage/irritation** Classification was carried out based on substance-specific concentration limits.

Substance
Ethanol, CAS: 64-17-5
Eye, Rabbit, OECD 405, irritant

**Skin corrosion/irritation** Classification was carried out based on substance-specific concentration limits.

Substance
Ethanol, CAS: 64-17-5
dermal, Rabbit, OECD 404, non-irritating

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

Substance
Ethanol, CAS: 64-17-5
inhalative, non-sensitizing
dermal, Guinea pig, OECD 406, non-sensitizing

**Specific target organ toxicity — single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity — repeated exposure** Based on available data, the classification criteria are not met.

Substance
Ethanol, CAS: 64-17-5
NOAEL, oral, mouse, 9400 mg/kg bw/day (subchronic), no adverse effect observed

**Mutagenicity** Does not contain a relevant substance that meets the classification criteria.

**Reproduction toxicity** Does not contain a relevant substance that meets the classification criteria.

Substance
Ethanol, CAS: 64-17-5
NOAEL, oral, mouse, 20700 mg/kg bw/day (subchronic), OECD 416, no adverse effect observed
NOAEC, inhalative, Rat, 30400 mg/m <sup>3</sup> (subchronic), no adverse effect observed

**Carcinogenicity** Does not contain a relevant substance that meets the classification criteria.

Substance
Ethanol, CAS: 64-17-5
NOAEL, oral, Rat, > 3000 mg/kg bw/day, negativ

**Aspiration hazard** Based on available data, the classification criteria are not met.

**General remarks**

Toxicological data of complete product are not available.  
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

## 11.2 Information on other hazards

**Endocrine disrupting properties** No information available.

**Other information**

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Ethanol, CAS: 64-17-5
LC50, (96h), Oncorhynchus mykiss, 13000 mg/l (OECD 203)
LC50, (48h), Daphnia magna, 12340 mg/l
EC50, (72h), Algae, 275 mg/l (OECD 201)
EC50, (48h), Selenastrum capricornutum, 12900 mg/l (OECD 201)
Sodium hydroxide, CAS: 1310-73-2
EC50, (48h), Invertebrates, 40,4 mg/L

### 12.2 Persistence and degradability

**Behaviour in environment compartments** not determined

**Behaviour in sewage plant** not determined

**Biological degradability** not determined

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.



### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

### 12.7 Other adverse effects

Ecological data of complete product are not available.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

#### Product

Disposal in an incineration plant in accordance with the regulations of the local authorities.

#### Waste no. (recommended)

070704\*

#### Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.

#### Waste no. (recommended)

150110\* packaging containing residues of or contaminated by hazardous substances

## SECTION 14: Transport information

### 14.1 UN number or ID number


Transport by land according to ADR/RID 1170

Inland navigation (ADN) 1170


Marine transport in accordance with IMDG 1170


Air transport in accordance with IATA 1170

**14.2 UN proper shipping name**

Transport by land according to ADR/RID	Ethanol solution
- Classification Code	F1
- Label	
- ADR LQ	5 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 3 (D/E)

Inland navigation (ADN)	Ethanol solution
- Classification Code	F1
- Label	

Marine transport in accordance with IMDG	Ethanol solution
- EMS	F-E, S-D
- Label	
- IMDG LQ	5 l

Air transport in accordance with IATA	Ethanol solution
- Label	

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID	3
Inland navigation (ADN)	3
Marine transport in accordance with IMDG	3
Air transport in accordance with IATA	3

**14.4 Packing group**

Transport by land according to ADR/RID	III
Inland navigation (ADN)	III
Marine transport in accordance with IMDG	III
Air transport in accordance with IATA	III

**14.5 Environmental hazards**

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Maritime transport in bulk according to IMO instruments**

No information available.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>EEC-REGULATIONS</b>	2008/98/EC 2000/532/EC; 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
<b>TRANSPORT-REGULATIONS</b>	ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2021)
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for young people.
- VOC (2010/75/CE)	48 %

**15.2 Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****16.1 Hazard statements (SECTION 3)**

H318 Causes serious eye damage.  
H314 Causes severe skin burns and eye damage.  
H290 May be corrosive to metals.

H319 Causes serious eye irritation.  
H225 Highly flammable liquid and vapour.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 EL50 = Median effective loading  
 ELINCS = European List of Notified Chemical Substances  
 EmS = Emergency Schedules  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 IVIS = In vitro irritation score  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 LL50 = Median lethal loading  
 LQ = Limited Quantities  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

**16.3 Other information****Classification procedure**

Flam. Liq. 3: H226 Flammable liquid and vapour. (Bridging principle "Substantially similar mixtures")  
 Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)  
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)

**Modified position**

none

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