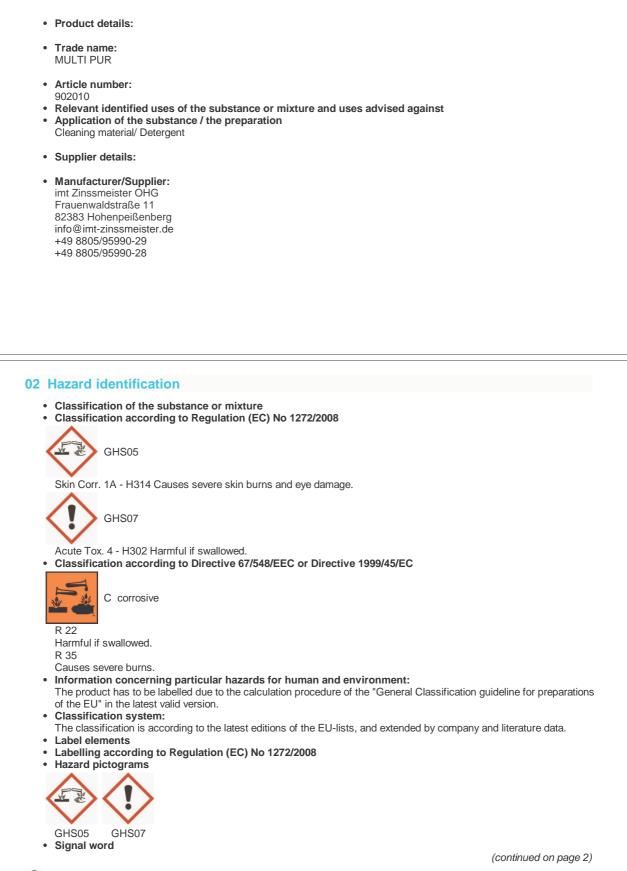


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**01** Identification of substance



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**PRODUCT**: **MULTI PUR** (continued of page 1) Danger Hazard-determining components of labelling: Potassium Hydroxide Hazard statements H314 Causes severe skin burns and eye damage. H302 Harmful if swallowed. **Precautionary statements** P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P270 Do no eat, drink or smoke when using this product. P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P405 Store locked up. P501a Dispose of contents/container in accordance with local/regional/ national/international regulations. Additional information: Results of PBT and vPvB assessment According to Annex XIII, XIV of Regulation (EC) No.1907/2006 concerning REACH Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Not fulfilling vPvB (very persistent/very bioaccummulative) criteria. Self classification PBT: Not applicable. vPvB: Not applicable. 03 Composition/Data on components · Chemical characterization Description: Solution of substances listed below with non declarable additions. Dangerous components: CAS NO. Description Index R-phrases % 1310-58-3 Potassium Hydroxide >30,0 EINECS: 215-181-3 Record number 01-2119487136-33-0000 🛋 C X Xn 22-35 🔗 Skin Corr. 1A - H314; 안 Acute Tox. 4 - H302 Additional information For the wording of the listed risk phrases refer to section 16. 04 First aid mesures · Description of first aid measures · General information Instantly remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. Personal protection for the First Aider. After inhalation Supply fresh air or oxygen; call for doctor. In the case of breathing difficulties have the casualty inhale oxygen. · After skin contact Instantly wash with water and soap and rinse thoroughly.

#### After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

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Use eye protection. Seek medical treatment.

- After swallowing
- Rinse out mouth.
- Drink copious amounts of water and provide fresh air. Instantly call for doctor.
- Do not induce vomiting; instantly call for medical help.

During spontaneous vomiting hold the head of the casualtyned onto low with the body in a prone position in order to avoid the penetration of vomit into the air tube.

#### Information for doctor

Typical caustic burns. Symptoms of acute poisoning: The local damage proceeds very quickly, initially without any or little (inadequate!) sensation of pain. Eyes: in particular damage to the conjunctives, cornea, sclera (edema, ulceration/perforation, opacity of the cornea), more seldom even to the retina and choroidea; there is a danger of blindness! Skin: erythema -> erosion with swelling of the tissue showing soft, gelatinous surface (colliquative necrosis), -> deficient skin function (rule of nines!) Inhalation: tussive irritation, following massive inhalation possible dyspnoea, stridor, danger of laryngospasm/glottic edema, pulmonary edema, bronchopneumonia Ingestion: painful reddening/glassy swelling of the mucous membranes of the mouth/tongue (however, signs of corrosion can also be absent!); pain behind the sternum and in the epigastrum, dysphagia, under certain circumstances emesis (danger of aspiration); in serious cases rapid entry of collapse/shock (sometimes fatal); Information see: GESTIS-database on hazardous substances www.hvbg.de/bgia/gestis-database

#### 05 Fire fighting measures

- · Extinguishing media
- Suitable extinguishing agents CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- For safety reasons unsuitable extinguishing agents Not known.
- Special hazards caused by the material, its products of combustion or flue gases: No further relevant information available.
- Advice for firefighters
- Protective equipment: Keep breathing equipment ready. Wear protective equipment. Keep unprotected persons away.
- Additional information None

#### 06 Accidental release measures

- Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.
- Measures for environmental protection: Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
   Measures for cleaning/collecting: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Dispose of the material collected according to regulations. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
  - Additional information:
     Other regulations, limitations and prohibitive regulations see chapter 15

#### 07 Handling and storage

#### Handling

- Information for safe handling:
- Do not mix with acid products
- Information about protection against explosions and fires:

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(continued of page 3)

No special measures required. • Technically and precautionary measures Store in the original bundle.

· Conditions for safe storage, including any incompatibilities

- Storage
- Requirements to be met by storerooms and containers:
- Observe official regulations on storing packagings with dangerous goods
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Protect from frost.
- Protect from heat and direct sunlight. **Storage class**
- Storage classes according concept of VCI -combined storage of chemicals : LGK 8BI
- · Class according to regulation on inflammable liquids:
- Specific end use(s) No further relevant information available.

### 08 Exposure controls and personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- · Components with critical values that require monitoring at the workplace:

#### CAS No. Designation of material

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### Additional information:

The lists that were valid during the compilation were used as basis.

- Exposure controls
- · Personal protective equipment
- General protective and hygienic measures
   Wash hands during breaks and at the end of the work.
- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments. Avoid contact with the eyes.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin. Other regulations, limitations and prohibitive regulations see chapter 15
- Breathing equipment: Use breathing protectiony when aerosol or mist is formed (FFP2SL) Other regulations, limitations and prohibitive regulations see chapter 15
- Protection of hands: Alkaline resistant protection gloves EN 374 (Butyl india rubber, Viton) Other regulations, limitations and prohibitive regulations see chapter 15 Preventive skin protection by use of skin -protecting agents is recommended.
- 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. 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.
   Eye protection: Tightly sealed goggles (EN 166) Other regulations, limitations and prohibitive regulations see chapter 15
- Body protection: Protective work clothing EN 340 Protective clothing, general requirements Chemical protective clothing - EN 463 following Other regulations, limitations and prohibitive regulations see chapter 15

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	(continued of page 4,
9 Physical and chemical prop	
Information on basic physical and che	
Appearance	nincai properties
Appearance:	
Form:	Fluid
Colour:	Colourless
Smell:	Odourless
Odour threshold:	Not determined.
CHANGE IN CONDITION	range/value unit method
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	> 100 °C
Flash point:	Not applicable
Inflammability (solid, gaseous)	Not applicable.
Ignition temperature:	Not applicable
Decomposition temperature:	Not determined.
Self-inflammability	Not determined.
Danger of explosion:	Product is not explosive.
Critical values for explosion:	
Lower:	Not determined.
Upper:	Not determined.
Steam pressure:	Not determined.
Density	1,2290 - 1,2890 g/cm3 20℃
Solubility in / Miscibility with	
Water:	Not determined.
ph-value:	at 20 °C 12,7+-0,3 ( 10,000 g/l Wasser g/l water)
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Solvent content:	
Organic solvents:	0,00 %
Additional information	No further relevant information available.

### 10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions No dangerous reactions known. • Conditions to avoid
- No further relevant information available.
- · Materials to be avoided:
- No further relevant information available.
- Dangerous reactions
- Reacts with base metals forming hydrogen.
- Dangerous products of composition: No dangerous decomposition products known

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#### PRODUCT : MULTI PUR

(continued of page 5) **11 Toxicological information** · Information on toxicological effects Acute toxicity: · LD/LC50 values that are relevant for classification: 1310-58-3 Potassium Hydroxide Oral, LD50: 365 mg/kg (rat) · Primary irritant effect: · on the skin: Strong caustic effect on skin and mucous membranes. · on the eye: Strong caustic effect. Sensitization: No sensitizing effect known. • Other information (about experimental toxicology): Note: The indicated toxicity values refer not on the preparation, but only on the individual ingredients in their commercial concentrations. Additional toxicological information: Harmful Corrosive Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. **12 Ecological information** 

- ToxicityAcquatic toxicity:
  - No further relevant information available.
- Information about elimination (persistence and degradability): No further relevant information available.
- · Ecotoxical effects:
- Behaviour in sewage processing plants:

If appropriate diluted product reaches the sewage processing plant, there will be no disturbance of the biodegradable activities.

- Additional ecological information:
- CSB-value:
   Not determined.
- BSB5-value:
   Not determined
- AOX-indication:
   Product contains no organic bounded halogen
- General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Before the waste is drained usually neutralization is necessary.

- If product reaches untreated water systems, hazardous effects on fish and other water organism are possible.

   Results of PBT and vPvB assessment
- PBT:
- Not applicable.
- vPvB:
- Not applicable.
- Other adverse effects No further relevant information available.
- D \_\_\_\_\_

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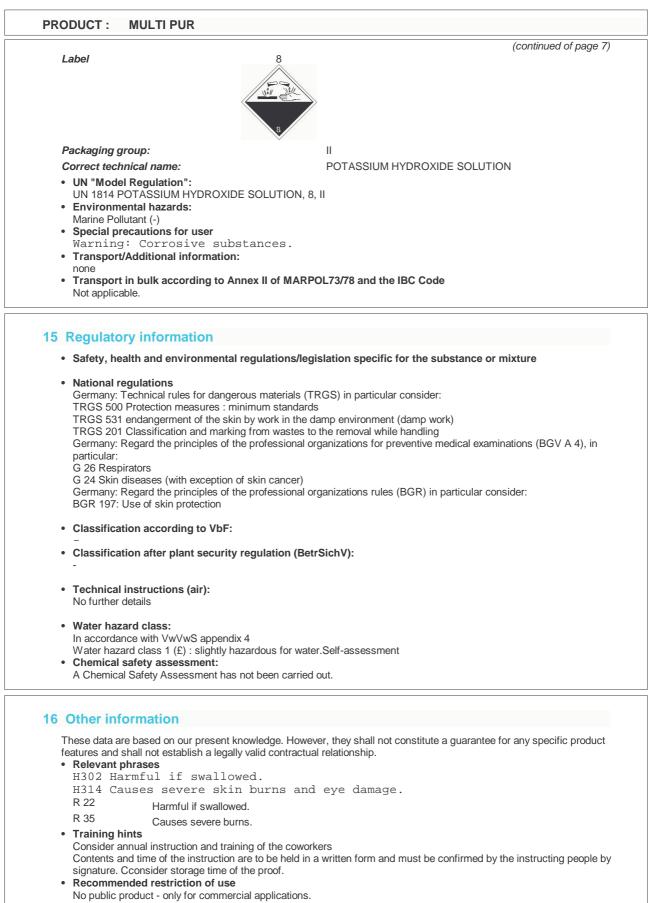
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	(continued of page 6)
3 Disposal considerations	(continued of page of
Product:	
Recommendation	
	is to be executed by the user according to the European waste disposi-
catalog (EAK) industry and product specific (orig	
The waste keys are only referring to concentrate	d products.
European waste catalogue     06	
WASTES FROM INORGANIC CHEMICAL	PROCESSES
06 02	
wastes from the MFSU of bases	
06 02 99	
wastes not otherwise specified	l
Uncleaned packagings:	
<ul> <li>Recommendation:</li> </ul>	
Disposal must be made according to official regu	ulations.
Recommended cleaning agent:	
Water, if necessary with cleaning agent.	
4 Transport information	
<ul> <li>Land transport ADR/RID and GGVS/GGVE (c ADR/RID-GGVS/E Class:</li> </ul>	8 (C5) Corrosive substances.
Kemler Number:	80
UN-Number:	1814
Packaging group:	II
Hazard label: 8	
Designation of goods:	1814 POTASSIUM HYDROXIDE SOLUTION
Excepted quantities (EQ):	E2
Excepted quantities (EQ).	EZ
Limited quantities (LQ)	LQ22
Limited quantities (LQ) Transport category	LQ22 2
Limited quantities (LQ)	LQ22
Limited quantities (LQ) Transport category Tunnel restriction code	LQ22 2
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea:	LQ22 2 E
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class:	LQ22 2 E 8
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number:	LQ22 2 E
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class:	LQ22 2 E 8
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label 8	LQ22 2 E 8 1814
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group:	LQ22 2 8 1814
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group: EMS Number	LQ22 2 E 8 1814 II F-A,S-B
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group: EMS Number Marine pollutant:	LQ22 2 E 8 1814 II F-A,S-B No
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group: EMS Number	LQ22 2 E 8 1814 II F-A,S-B
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group: EMS Number Marine pollutant:	LQ22 2 E 8 1814 II F-A,S-B No
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label * Packaging group: EMS Number Marine pollutant: Segregation groups Correct technical name:	LQ22 2 E 8 1814 II F-A,S-B No Alkalis
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label Packaging group: EMS Number Marine pollutant: Segregation groups Correct technical name: • Air transport ICAO-TI and IATA-DGR:	LQ22 2 B 1814 No Alkalis POTASSIUM HYDROXIDE SOLUTION
Limited quantities (LQ) Transport category Tunnel restriction code • Maritime transport IMDG/GGVSea: IMDG/GGVSea Class: UN Number: Label Packaging group: EMS Number Marine pollutant: Segregation groups Correct technical name:	LQ22 2 E 8 1814 II F-A,S-B No Alkalis

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•	Department issuing data specification sheet:
	Laboratory department.
•	Abbreviations and acronyms:
	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
	RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations
	Concerning the International Transport of Dangerous Goods by Rail)
	IMDG: International Maritime Code for Dangerous Goods
	IATA: International Air Transport Association
	IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
	ICAO: International Civil Aviation Organization
	ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
	GHS: Globally Harmonized System of Classification and Labelling of Chemicals
	CAS: Chemical Abstracts Service (division of the American Chemical Society)
	VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
	LC50: Lethal concentration, 50 percent
	LD50: Lethal concentration, so percent LD50: Lethal dose, 50 percent
•	* Data compared to the previous version altered.