

SECTION 1: Identification of the substance/mixture and of the company/undertaking		
1.1	Product identifier: Art. no.:	ultra.sorp 4 molecular sieve 940001
1.2	Relevant Identified used of the substance or mixture and uses advised against:	· Sector of Use SU1 Agriculture, forestry, fishery SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites SU5 Manufacture of textiles, leather, fur SU6b Manufacture of pulp, paper and paper products SU7 Printing and reproduction of recorded media SU8 Manufacture of bulk, large scale chemicals (including petroleum products) SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU11 Manufacture of rubber products SU12 Manufacture of plastics products, including compounding and conversion SU15 Manufacture of fabricated metal products, except machinery and equipment SU16 Manufacture of computer, electronic and optical products, electrical equipment SU19 Building and construction work · Product category PC1 Adhesives, sealants PC2 Adsorbents PC8 Biocidal products (e.g. Disinfectants, pest control) PC9a Coatings and paints, thinners, paint removers PC9b Fillers, putties, plasters, modelling clay PC12 Fertilisers PC14 Metal surface treatment products, including galvanic and electroplating products PC15 Non-metal-surface treatment products PC18 Ink and toners PC19 Intermediate PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC23 Leather treatment products PC26 Paper and board treatment products PC27 Plant protection products PC28 Perfumes, fragrances PC31 Polishes and wax blends PC32 Polymer preparations and compounds PC33 Semiconductors PC34 Textile dyes and impregnating products PC35 Washing and cleaning products (including solvent based products) PC37 Water treatment chemicals PC40 Extraction agents PC0 Other · Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or process with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions. PROC3 Manufacture of formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition. PROC5 Mixing or blending in batch processes. PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.

	PROC8b Transfer of substance or mixture (charging/discharging) at dedicated facilities. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC14 Tableting, compression, extrusion, pelletisation, granulation · Environmental release category ERC2 Formulation into mixture · Article category Not applicable.
1.3 Details of the supplier of the safety data sheet:	Ultrafilter GmbH Otto-Hahn-Str. 1 40721 Hilden Germany ☎ +49 (0)2103 – 33 36 0 Fax: +49 (0)2103 – 33 36 36 info@ultra-filter.de
1.3 Emergency telephone number:	+49 (0)2103 - 33 36 0 Office time Mo-Fr 08:00 – 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture according to regulation (EC) No 1272/2008:	The product is not classified according to CLP
2.2 Label elements	
Labelling according to Regulation (EC) No 1272/2008:	None
Hazard pictograms:	None
Signal word:	None
Hazard statements:	None
2.3 Other hazards	The product is very adsorbent and may have a drying effect on skin and eyes. When exceeding the WEL (Workplace Exposure Limit) a mechanical overburdening of the respiratory system is possible. In contact with water heat development and therefore burning of the skin and mucous membrane is possible. This product contains ~ 1 % quartz which is part of a natural raw material. At present, EU Regulations do not require safety labelling of products containing quartz.
Results of PBT and vPvB assessment	PBT: Not applicable vPvB: Not Applicable

SECTION 3: Composition/information on ingredients

- **Chemical characterisation: Mixtures**
- **Description:** Crystalline aluminosilicate with binders

Components (CAS No. and EINECS No.):		
CAS: 1318-02-1 EINECS: 215-283-8 Reg.nr.: 01-2119429034-49-XXXX	zeolite (crystalline aluminosilicate)	75-90%
CAS: 1318-02-1 EINECS: 215-283-8 Reg.nr.: 01-2119561162-47-XXXX	zeolite (crystalline aluminosilicate)	10-25%
CAS: 14808-60-7 EINECS: 238-878-4 Reg.nr.: 02-2119513676-36-0000	quarts (SiO ₂)	≤ 1%

- **Dangerous components:** None

• Impurities and stabilising additives: Silica, crystalline (airborne, particles of respirable size)
• Additional information: ECHA (European Chemicals Agency) considers Zeolites to be a class of different substances.

SECTION 4: First aid measures

4.1	Description of first aid measures	
	General information:	No special measures required
	After inhalation:	Supply fresh air; consult doctor in case of complaints.
	After skin contact:	Immediately rinse with water. Generally the product does not irritate the skin
	After eye contact:	Rinse opened eye for several minutes under running water.
	After swallowing:	If symptoms persist consult doctor.
4.2	Most important symptoms and effects, both acute and delayed	No further relevant information available.
4.3	Indication of any immediate medical attention and special treatment needed	No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing agents	Use fire extinguishing methods suitable to surrounding conditions.
5.2 Special hazards arising from the substance or mixture	No further relevant information available.
Protective equipment:	Wear personal protective equipment
Additional information:	Dispose of fire debris and contaminated firefighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Wear protective clothing.
6.2 Environmental precautions:	Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system.
6.3 Methods and material for containment and cleaning up:	Sweep the spill area; avoid raising dust.
6.4 Reference to other sections	No dangerous substances are released. See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling	Keep receptacles tightly sealed. Provide suction extractors if dust is formed. Any unavoidable deposit of dust must be regularly removed. Prevent static electric sparks.
Information about fire - and explosion protection:	Earth container to avoid electric sparks, especially in contact with flammable substances. The product is not flammable.
7.2 Conditions for safe storage, including any incompatibilities	
Requirements to be met by storerooms and receptacles:	No special requirements.

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Information about storage in one common storage facility:	Store away from foodstuffs.
Further information about storage conditions:	Store in dry conditions. This product is hygroscopic. Keep container tightly sealed.
7.3 Specific end use(s)	No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

14808-60-7 quartz (SiO₂)

BOELV (European Union)	Long-term value: 0.1* mg/m ³ *repirable fraction
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DNELs

13-18-02-1 zeolites

Oral	DNEL(long-systemic)	1.25-1.5 mg/kg bw /day (General population)
Dermal	DNEL(long-systemic)	1.25-1.5 mg/kg bw /day (General population)
		2.5-3.0 mg/kg bw /day (Worker)
Inhalative	DNEL(long-local)	3 mg/m ³ (Worker)

PNECs

1318-02-1 zeolites

PNEC	3.2 mg/l (aqua-freshwater) daphnia magna
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Additional Occupational Exposure Limit Values for possible hazards during processing:

Dust inhalable

TWA (Great Britain)	Long-term value: 10 mg/m ³
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Dust respirable

TWA (Great Britain)	Long-term value: 4 mg/m ³
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Additional information: Valid lists valid at time of creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection:

If the WEL value is exceeded.

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Protection of hands:

Protective gloves.



Wear gloves for protection against mechanical hazards according to EN 388.

Use gloves of stable material (e.g. Nitrile) - if necessary tri-coted to improve the wearability.

Check the condition of the gloves prior to each use.

Check the permeability prior to each anew use of the glove.

After use of gloves apply skin-cleaning agents and skin cosmetics.

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.

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.

Recommended thickness of the material: ≥ 0.11 mm

Butyl rubber, BR

Nitrile rubber, NBR

EN 388: Minimum requirements for efficiency level 1 for all groups.

Penetration time of glove material

EN 420: Minimum requirements for efficiency level 1 for all groups.

The exact break through time has to be obtained from the manufacturer of the protective gloves and has to be observed.

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).

For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:

Butyl rubber, BR or Nitrile rubber, NBR

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

Nitrile rubber, NBR

Not suitable are gloves made of the following materials:

cloth gloves

Leather gloves

Eye protection:

Safety glasses.



Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on
basic physical and
chemical properties

Appearance
Form:

Solid
Beads

Colour:

Beige

Odour:	Odourless
Odour threshold:	Not determined
pH-value at 20°C:	7-11
Change in condition	
Melting point / freezing point:	>400 °C (Zeolite, OECD TG 102) (zeolite)
Initial boiling Point and boiling range:	Not determined.
Flash point:	Not determined
Flammability (solid,gaseous):	Product is not flammable
Ignition temperature:	Not available
Decomposition temperature:	Not applicable
Auto-igniting temperature:	Not determined
Explosive properties:	Product does not present an explosion hazard.
Explosion limits: Lower: Upper:	Not determined. Not determined.
Vapour pressure:	Not applicable.
Density: Relative density: Vapour density:	Not determined. Not determined. Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with water:	Insoluble.
Partition coefficient (n-octanol/water):	Not determined
Viscosity: Dynamic: Kinematic:	Not applicable. Not applicable.
9.2 Other information:	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

LD/LC50 values relevant for classification:

1318-02-1 zeolites

Oral	LD50	>5110 mg/kg (rat) (OECD TG 401)
Dermal	LD50	>5000 mg/kg (rabbit) (OECD TG 402)
Inhalative	LC0	>3350 mg/m ³ /4h (rat)
IUCLID Dataset 18-Feb-2000		

Primary irritant effect:

Skin corrosion/irritation:

1318-02-1 zeolites

Skin	IS	0 (rabbit) (OECD 404)
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Based on available data, the classification criteria are not met.

Serious eye damage / irritation

1318-02-1 zeolites

Eye	IS	0.7-1.3 (rabbit) (OECD 405)
Corneal opacity		

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

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

Respiratory sensitisation No further relevant information available.

Skin sensitisation No further relevant information available.

Sensitisation possible through skin contact.

Repeated dose toxicity:

1318-02-1 zeolites

Oral	NOAEL (90 d)	250-300 mg/kg bw/day (rat)
subchronic oral repeated dose		

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

1318-02-1 zeolites

Oral	NOAEL	≥ 1000 ppm (rat)
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Mutagenicity

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Oral	Micronucleus-Test	5000 mg/kg bw (mouse) (OECD 474)
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	AMES Test	>0.1 mg/plate (Salmonella typhimurium) (OECD 471)
	HPRT Test	Negative with and without metabolic activation
		>0.08 mg/ml (L5178Y) (OECD 476)
		No genotoxicity;
		Cytotoxicity: >0.02 mg/ml without metabolic activation;
		>0.08 mg/ml; with metabolic activation.

Reproductive toxicity

1318-02-1 zeolites

Oral	NOAEL (maternal toxicity)	≥ 1600 mg/kg bw/day (rat) (OECD 414) ≥ 1600 mg/kg bw/day (rabbit) (OECD 414))
	NOAEL (teratogenicity)	≥ 1600 mg/kg bw/day (rat) (OECD 414) ≥ 1600 mg/kg bw/day (rabbit) (OECD 414)

Specific target organ toxicity (single exposure) No further relevant information available.

Specific target organ toxicity (repeated exposure) No further relevant information available.

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

SECTION 12: Ecological information

12.1 Aquatic toxicity: No further relevant information available

Fish toxicity

1318-02-1 zeolites

LC50 (96 h)	>680 mg/l (Pimephales promelas) (EPA 660/3-75/009)
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Water flea toxicity

1318-02-1 zeolites

EC50 (24 h)	2808 mg/l (Daphnia magna) (OECD 202)
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Algae toxicity

1318-02-1 zeolites

EC50 (96 h)	>328 mg/l (Scenedesmus subspicatus) (OECD 201)
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Bacterial toxicity

1318-02-1 zeolites

EC50 (16 h)	950 mg/l (Pseudomonas putida) (DIN 38412/8)
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12.2 Persistence and degradability No further relevant information available.

Other information: By the insolubility in water there is a separation at every filtration and sedimentation process.

12.3 Bioaccumulative potential Does not accumulate in organisms

Behaviour in environmental systems: Accumulation in organisms is not to be expected.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Not hazardous for water.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1	Waste treatment methods	
	Recommendation:	Disposal must be made according to official regulations.
	Waste disposal key:	The disposal of the product has to be carried out in accordance with the legal requirements. EWC waste codes are strictly industry-oriented, therefore waste classification has to be done by the waste producer.
	Uncleaned Packaging:	
	Recommendation:	Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1	UN-Number:	
	ADR, ADN, IMDG, IATA	None
14.2	UN proper shipping name:	
	ADR, ADN, IMDG, IATA	None
14.3	Transport hazard class(es):	
	ADR, ADN, IMDG, IATA Class	None
14.4	Packing group:	
	ADR, IMDG, IATA	None
14.5	Environmental hazards:	Not applicable
14.6	Special precautions for user:	Not applicable

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:	Not applicable
Transport / Additional information:	Not dangerous according to the above specifications. Ultrafilter GmbH recommendation for air transport: Cargo aircraft only.

SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008:	None
Hazard pictograms:	None
Signal word:	None
Hazard statements:	None
Directive 2012/18/EU	
Named dangerous substances – ANNEX I	None of the ingredients is listed.
National regulations:	
Waterhazard class:	WGK nwg (AwSV of 18.04.2017): not hazardous to waters.
Registered in the international inventory lists:	TSCA (USA) and DSL (Canada) Zeolites are considered for TSCA and DSL purposes to be mixtures of the substances used to manufacture them. The individual reactant materials used to produce zeolites are required to be listed separately on the Inventory. The application of EPA's guidance is not affected by the chemical composition of the zeolite under consideration. EPA recognizes zeolites as a family of aluminosilicates manufactured from a number of commercial processes and techniques that utilize different proportions of alumina, silica and a variety of sources of different inorganic and organic cations. The final zeolites are characterized by covalently linked AlO_4 and SiO_4 tetrahedra. Zeolites as a class of substances are considered mixtures under TSCA regardless of the commercial manufacturing processes and reactants utilized to achieve the desired chemical composition of the final zeolite structure. EINECS/REACH (Europe) IECSC (China) PICCS (Philippines) AICS (Australia) KECI (Korea) MITI (Japan) NZIoC (New Zealand)

5.2 Chemical safety assessment	A Chemical Safety Assessment has been carried out.
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SECTION 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.

Company issuing MSDS:

Ultrafilter GmbH

HS-code:

3824 9915

Contact:

Germany

Ultrafilter GmbH, Otto-Hahn-Str. 1, 40721 Hilden

Tel.: +49 (0)2103 – 33360, Fax: +49 (0)2103 – 333636

The first date of preparation 26.02.2015

Number of revision times and the last revision date 6.6 / 07.02.2020

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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Others: No further relevant information available.

*** Data compared to the previous version altered.**

Annex: Exposure Scenario

Short title of the exposure scenario

Sector of Use

SU1 Agriculture, forestry, fishery
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU5 Manufacture of textiles, leather, fur
SU6b Manufacture of pulp, paper and paper products
SU7 Printing and reproduction of recorded media
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU11 Manufacture of rubber products
SU12 Manufacture of plastics products, including compounding and conversion
SU15 Manufacture of fabricated metal products, except machinery and equipment
SU16 Manufacture of computer, electronic and optical products, electrical equipment
SU19 Building and construction work
SU5 Manufacture of textiles, leather, fur

Product category

PC1 Adhesives, sealants
PC2 Adsorbents
PC8 Biocidal products
PC9a Coatings and paints, thinners, paint removers
PC9b Fillers, putties, plasters, modelling clay
PC12 Fertilisers
PC14 Metal surface treatment products
PC15 Non-metal-surface treatment products
PC18 Ink and toners
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralisation agents
PC23 Leather treatment products
PC26 Paper and board treatment products
PC27 Plant protection products
PC28 Perfumes, fragrances
PC31 Polishes and wax blends
PC32 Polymer preparations and compounds
PC33 Semiconductors
PC34 Textile dyes and impregnating products
PC35 Washing and cleaning products (including solvent based products)
PC37 Water treatment chemicals
PC40 Extraction agents
PC0 Other

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or process with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC3 Manufacture of formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.
PROC5 Mixing or blending in batch processes.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC8b Transfer of substance or mixture (charging/discharging) at dedicated facilities.
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC14 Tableting, compression, extrusion, pelletisation, granulation

· **Article category** Not applicable.

· **Environmental release category** ERC2 Formulation into mixture

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· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**

· **Duration and frequency** 5 workdays/week.

· **Physical parameters**

· **Physical state** Solid

· **Concentration of the substance in the mixture** The substance is main component.

· **Other operational conditions**

· **Other operational conditions affecting environmental exposure** No special measures required.

· **Other operational conditions affecting consumer exposure** Not required.

· **Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

· **Risk management measures**

· **Worker protection**

· **Organisational protective measures** No special measures required.

· **Technical protective measures** Provide suction extractors if dust is formed. Prevent formation of dust.

· **Personal protective measures** The usual precautionary measures are to be adhered to when handling chemicals. No special measures required.

· **Measures for consumer protection** No special measures required.

· **Environmental protection measures**

· **Air** Exhaust air is cleaned in dedusting process. No special measures required.

· **Water** Do not allow to reach ground water, water bodies or sewage system.

· **Disposal measures** Disposal must be made according to official regulations. Ensure the waste is collected and contained.

· **Disposal procedures** Must not be disposed together with household garbage. Do not allow product to reach sewage system. Dispose of product residues with household waste.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Consumer** Not relevant for this Exposure Scenario.

· **Guidance for downstream users** No further relevant information available.



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