

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : STAR US 5
Revision date : 02.05.2024
Print date : 12.08.2025

Version (Revision) : 3.1.1 (3.1.0)

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

1.1 Product identifier

STAR US 5
UFI: VA20-U0DX-M00N-PAUG

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

PC 35 - Washing and cleaning products

1.3 Details of the supplier of the safety data sheet

Supplier

Bio-Circle Surface Technology GmbH

Street : Berensweg 200

Postal code/City : 33334 Gütersloh

Telephone : +49 5241 9443 0

Telefax : +49 5241 9443 44

Information contact : labor@bio-circle.de

1.4 Emergency telephone number

+49 5241 9443 51 during normal office hours
(Monday to Thursday from 8 am to 4 pm and Friday from 8 am to 3 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Met. Corr. 1 ; H290 - Corrosive to metals : Category 1 ; May be corrosive to metals.

Skin Corr. 1A ; H314 - Skin corrosion/irritation : Category 1A ; Causes severe skin burns and eye damage.

Eye Dam. 1 ; H318 - Serious eye damage/eye irritation : Category 1 ; Causes serious eye damage.

2.2 Label elements

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

Hazard pictograms



Corrosion (GHS05)

Signal word

Danger

Hazard components for labelling

POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3

Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P310 Immediately call a POISON CENTER/doctor/....

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

POTASSIUM HYDROXIDE ; REACH No. : 01-2119487136-33-XXXX ; EC No. : 215-181-3; CAS No. : 1310-58-3

Weight fraction : $\geq 10 - < 25 \%$

Classification 1272/2008 [CLP] : Met. Corr. 1 ; H290 Skin Corr. 1A ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302

Specific Conc. Limits : Skin Corr. 1A ; H314: $C \geq 5 \%$ • Eye Dam. 1 ; H318: $C \geq 2 \%$ • Skin Corr. 1B ; H314: $C \geq 2 \%$ • Skin Corr. 1C ; H314: $C \geq 2 \%$ • Eye Irrit. 2 ; H319: $C \geq 0,5 \%$ • Skin Irrit. 2 ; H315: $C \geq 0,5 \%$

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps.

Following inhalation

In case of respiratory tract irritation, consult a physician.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Rub greasy ointment into the skin.

After eye contact

Protect uninjured eye. In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Do NOT induce vomiting. Let 1 glass of water be drunken in little sips (dilution effect). Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Extinguishing powder Carbon dioxide (CO₂) Sand Nitrogen Extinguishing blanket

Unsuitable extinguishing media

Full water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide , Carbon dioxide (CO₂)

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5.3 Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings. Fire fighting water forms corrosive alkaline solutions - slip hazard! Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Special danger of slipping by leaking/spilling product. Use personal protection equipment.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

Clear spills immediately. Wipe up with absorbent material (eg. cloth, fleece). Wash with plenty of water. Treat the recovered material as prescribed in the section on waste disposal.

Other information

P390 - Absorb spillage to prevent material damage.

6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

It is recommended to design all work processes always so that the following is excluded:

generation/formation of aerosols

Generation/formation of mist

Do not breathe gas/fumes/vapour/spray. Wear personal protection equipment (refer to section 8). Keep container tightly closed.

7.2 Conditions for safe storage, including any incompatibilities

P405 - Store locked up. P406 - Store in a corrosion resistant/... container with a resistant inner liner. Keep/Store only in original container. Protect against : Frost .

Hints on joint storage

Storage class (TRGS 510) : 8B

Further information on storage conditions

Storage temperature : 2 °C - 35 °C

7.3 Specific end use(s)

Observe technical data sheet. Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

DNEL-/PNEC-values

DNEL/DMEL

POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3

Limit value type : DNEL Consumer (local)

Exposure route : Inhalation

Exposure frequency : Long-term

Limit value : 1 mg/m³

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Limit value type : DNEL worker (local)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 1 mg/m³

8.2 Exposure controls

Personal protection equipment

Eye/face protection



Wear suitable safety goggles in case of splash.

Suitable eye protection
EN 166.

Skin protection

Hand protection



Suitable gloves type : EN 374.
Suitable material : NBR (Nitrile rubber)
Breakthrough time : 480 min.
Thickness of the glove material : 0.4 mm

Remark : The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection



Respiratory protection necessary at: aerosol or mist formation.

Suitable respiratory protection apparatus

Combination filtering device
Filter type: P2

Remark

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

General information

Do not put any product-impregnated cleaning rags into your trouser pockets. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. P362+P364 - Take off contaminated clothing and wash it before reuse. P264 - Wash hands thoroughly after handling.

8.3 Additional information

No tests have been performed. Selection made for preparations according to the best available knowledge and information on ingredients. In the case of preparations the resistance of glove materials cannot be calculated in advance so it has to be tested before use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

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Physical state : Liquid

Colour : translucent

Odour

characteristic

Safety characteristics

Solidifying point :	(1013 hPa)	approx.	-2 °C	
Initial boiling point and boiling range :	(1013 hPa)	approx.	93 °C	
Flash point :			not relevant	DIN EN ISO 13736
Auto-ignition temperature :			not relevant	
Flammability :			non-flammable	
Lower explosion limit :			not relevant	
Upper explosion limit :			not relevant	
Density :	(20 °C)	approx.	1,15 g/cm ³	
Water solubility :	(20 °C)		completely miscible	
pH :	(20 °C)	approx.	14	
Cinematic viscosity :	(20 °C)	approx.	1,4 mm ² /s	
Relative vapour density :	(20 °C)		not determined	
Maximum VOC content (EC) :			0 Weight-%	
Maximum VOC content (Switzerland) :			0 Weight-%	
Taxable VOC content (Switzerland) :			0 Weight-%	
Corrosive to metals :			May be corrosive to metals.	

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Exothermic reaction with: Acid

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3 Possibility of hazardous reactions

May cause strong formation of hydrogen by contact with amphoteric metals (e.g. alumina, lead, zinc) - danger of explosion.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Metal, base - Aluminium - Zinc

10.6 Hazardous decomposition products

Hydrogen

Decomposition products in case 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

Acute oral toxicity

Parameter :	ATEmix
Exposure route :	Oral
Effective dose :	> 2000 mg/kg
Parameter :	LD50 (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)

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Exposure route : Oral
Species : Rat
Effective dose : 365 mg/kg
Method : OECD 425

Acute dermal toxicity

Parameter : ATEmix
Exposure route : Dermal
Effective dose : > 2000 mg/kg

Acute inhalation toxicity

Parameter : ATEmix
Exposure route : Inhalation (dust/mist)
Effective dose : > 5 mg/l

Corrosion

Skin corrosion/irritation

Parameter : Skin corrosion/irritation (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Result : Causes severe burns
Method : OECD 431
Causes severe burns.

Serious eye damage/eye irritation

Parameter : Serious eye damage/eye irritation (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Result : Causes serious eye damage
Method : OECD 405
Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

No further relevant information available.

Sensitisation to the respiratory tract

No further relevant information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No further relevant information available.

Germ cell mutagenicity

No further relevant information available.

Reproductive toxicity

No further relevant information available.

STOT-single exposure

No further relevant information available.

STOT-repeated exposure

No further relevant information available.

Aspiration hazard

No further relevant information available.

11.2 Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Toxicokinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Other adverse effects

Has degreasing effect on the skin. Causes severe skin burns and eye damage.

Additional information

Preparation not tested. The statement is derived from the properties of the single components.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter :	LC50 (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Species :	Fish
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	80 mg/l
Exposure time :	96 h

12.2 Persistence and degradability

The surfactant contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

12.3 Bioaccumulative potential

No indication of bioaccumulation potential.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7 Other adverse effects

No information available.

12.8 Additional ecotoxicological information

After neutralisation, reduction in toxic effects is observed.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

Before intended use

Waste codes/waste designations according to EWC/AVV

07 06 01* (Aqueous washing liquids and mother liquors)
20 01 29* (Detergents containing hazardous substances)

Other disposal recommendations

P501 - Dispose of contents/container to industrial incineration plant. Dispose of waste according to applicable legislation. Dispose of contents/container to an appropriate recycling or disposal facility. Contaminated packages must be completely emptied and can be re-used following proper cleaning (Water (with cleaning agent)). Handle contaminated packages in the same way as the substance itself.

13.2 Additional information

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

14.1 UN number or ID number

UN 1814

14.2 UN proper shipping name

Land transport (ADR/RID)

POTASSIUM HYDROXIDE SOLUTION (POTASSIUM HYDROXIDE SOLUTION)

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Sea transport (IMDG)

POTASSIUM HYDROXIDE SOLUTION (POTASSIUM HYDROXIDE SOLUTION)

Air transport (ICAO-TI / IATA-DGR)

POTASSIUM HYDROXIDE SOLUTION (POTASSIUM HYDROXIDE SOLUTION)

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) : 8
Classification code : C5
Hazard identification number (Kemler No.) : 80
Tunnel restriction code : E
Special Provisions : LQ 1 I · E 2
Hazard label(s) :



8

Sea transport (IMDG)

Class(es) : 8
EmS-No. : F-A / S-B
Special Provisions : LQ 1 I · E 2
Hazard label(s) :



8

Air transport (ICAO-TI / IATA-DGR)

Class(es) : 8
Special Provisions : E 2
Hazard label(s) :



8

14.4 Packing group

II

14.5 Environmental hazards

Land transport (ADR/RID) : No

Sea transport (IMDG) : No

Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

EU legislation

Authorisations and/or restrictions on use

Restrictions on use

Use restriction according to REACH annex XVII, no. : 3, 75

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Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Other regulations (EU)

Labelling for contents according to regulation (EC) No. 648/2004

< 5 % anionic surfactants

National regulations

Water hazard class

Classification according to AwSV - Class : 1 (Slightly hazardous to water)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Indication of changes

None

16.2 Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (Europäisches Übereinkommen über die Beförderung gefährlicher Güter auf der Straße)
AOX: adsorbierbare organisch gebundene Halogene
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
CAS: Chemical Abstracts Service (Unterabteilung der American Chemical Society)
CLP: Verordnung (EG) Nr. 1272/2008 über die Einstufung, Kennzeichnung und Verpackung von Stoffen und Gemischen (Classification Labelling and Packaging)
EAK / AVV: europäischer Abfallartenkatalog / Abfallverzeichnis-Verordnung
ECHA: Europäische Chemikalienagentur (European Chemicals Agency)
EINECS: : Altstoffverzeichnis (European Inventory of Existing Commercial Chemical Substances)
GHS: Global harmonisiertes System zur Einstufung und Kennzeichnung von Chemikalien (Globally Harmonized System of Classification and Labelling of Chemicals)
IATA: Internationale Luftverkehrs-Vereinigung (International Air Transport Association)
ICAO: Internationale Zivilluftfahrtorganisation (International Civil Aviation Organization)
IMDG: Gefahrgutkennzeichnung für gefährliche Güter im Seeschiffverkehr (International Maritime Code for Dangerous Goods)
RID: Regelung zur internationalen Beförderung gefährlicher Güter im Schienenverkehr (Règlement concernant le transport international ferroviaire de marchandises dangereuses)
TRGS: Technische Regel für den Umgang mit Gefahrstoffen
VbF: Verordnung über brennbare Flüssigkeiten
VOC: flüchtige organische Verbindung (volatile organic compound)
VVEA: Verordnung über die Vermeidung und die Entsorgung von Abfällen
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

16.3 Key literature references and sources for data

DGUV: GESTIS-Stoffdatenbank
ECHA: Classification And Labelling Inventory
ECHA: Pre-registered Substances
ECHA: Registered Substances
EC_Safety Data Sheet of Suppliers
ESIS: European Chemical Substances Information System
GDL: Gefahrstoffdatenbank der Länder
UBA Rigoletto: Wassergefährdende Stoffe
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council
-> COMMISSION REGULATION (EU) 2020/878 of 18 June 2020
Regulation (EC) No. 1272/2008 of the European Parliament and of the Council

16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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Evaluation :
Met. Corr. 1 : UN Test, Part III of sub-section 37.4
Skin Corr. 1A : Calculation method.
Eye Dam. 1 : Calculation method.

16.5 Relevant H- and EUH-phrases (Number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

16.6 Training advice

None

16.7 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.