Safety Data Sheet
Potassium hydroxide Solid

Section 1 - IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY	
1.1 Identification of the substance	
• Substance Name	: Potassium hydroxide
• EC#	: 215-181-3
• CAS#	: 1310-58-3
• Trade Names	: As per client
• REACH Registration number	: 01-2119487136-33-0020
• Synonym:	: Caustic potash
	: Potassium hydrate
• Chemical Formula	: KOH
• Structure:	KOH
1.2 Use of the Substance/Mixture:	
• Manufacture of substances	
• Intermediate	
• Laboratory chemicals	
1.3 Company/undertaking identification:	
• Manufacturer Details:	Soda Chlorate 618400, Berizniki, Perm region, Russia, Churtanskoe shosse 3
• Only Representative Details:	momaja s.r.o. Karolinská 650/1 Prague 8, 186 00 Czech Republic
1.4 Emergency Telephone:	
• Emergency Telephone & Contact	

Section 2 - HAZARDS IDENTIFICATION	
2.1 Classification of substance as per Regulation (EC) # 1272/2008 (CLP/GHS)	
• Hazard Class and Category Code(s)	Acute Tox. 4 Skin Corr. 1A, Danger
• Hazard statement Code(s)	H 302: Harmful if swallowed. H 314: Causes severe skin burns and eye damage.

2.2 Labelling:	
Labeling according to Regulation (EC) No 1272/2008 (CLP/GHS)	
• Hazard Pictogram :	 Corrosion Exclamation mark Signal word: Danger
• Hazard Statements :	H 302: Harmful if swallowed. H 314: Causes severe skin burns and eye damage.
• Precautionary Statements :	P280: Wear protective gloves/protective clothing/eye protection/face protection. P260: Do not breathe dust/fume/gas/mist/vapours/spray. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P310: Immediately call a POISON CENTER/doctor/…
2.3. Other hazards	
None	
Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS	

Constituent	CAS No.	EC No.	Typical concentration	Concentration range	Remarks
Potassium hydroxide	1310-58-3	215-181-3	91.34	90-93 w/w%	None
Impurity	**CAS No.**	**EC No.**	**Typical concentration**	**Concentration range**	**Remarks**
Sodium Hydroxide	1310-73-2	215-185-5	1	0.99-2.0 w/w%	None
Potassium carbonate	584-08-7	209-529-3	0.5	0.3-0.8 w/w %	None
Chloride			0.005	0.003-0.008 w/w%	None
Iron			0.0003	0.0002-0.0005 w/w%	None
Sulphate			0.003	0.002-0.005 w/w %	None
Nickel			0. 0005	0.0003-0.0006 w/w %	None
Nitrates & Nitrites			0. 0005	0.0003-0.0006 w/w %	None

Section 4 - FIRST AID MEASURES

4.1 Description of First Aid measures:

• Eye contact :	- Consult a doctor/medical service - Rinse immediately with plenty of water for 15 minutes - Do not apply neutralizing agents
• Skin Contact :	- Consult a doctor/medical service - Wash immediately with lots of water and soap for 15 minutes - Remove clothing while washing
• Inhalation :	- Consult a doctor/medical service if breathing problems develop - Remove the victim into fresh air - Unconscious: maintain adequate airway and respiration
• Ingestion :	- Consult a doctor/medical service if you feel unwell - Immediately give lots of water to drink - Never give water to an unconscious person - Do not induce vomiting

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

None

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

Treat according to the symptoms, no known specific antidote.

Section 5 - FIRE-FIGHTING MEASURES

5.1. Extinguishing media:

Suitable extinguishing media:

- The product is non-combustible.
- Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

- Water may be ineffective.

5.2. Special hazards arising from the substance or mixture

- Corrosive liquid.
- Not combustible.
- Reacts violently with water.
- Gives off hydrogen by reaction with metals.

5.3. Advice for fire-fighters

- Wear self-contained breathing apparatus in case of fire.
- Wear corrosion proof suit
- Use firefighting water moderately and contain it.

- Use water spray to cool tanks/containers exposed to heat / remove them into safety.	
Section 6 - ACCIDENTAL RELEASE MEASURES	
6.1. Personal precautions, protective equipment and emergency procedures	
• Personal Protective Equipment	- Isolate the area. - Evacuate personnel to safe areas - Approach from upwind. - Ventilate the area. - Keep away from incompatible products - Wear chemical resistant personal protective equipment - Prevent further leakage or spillage if safe to do so. - Abundant running water should be available for emergency use. - Refer to protective measures listed in sections handling and storage and exposure controls/personal protection.
• Skin Protection	Wear gloves.
• Work practice	Eye wash fountains should be provided. Employees who have skin contact with KOH shall immediately wash and shower (if necessary) for 15 min. Contaminated clothing shall either be disposed of or placed into impervious containers and cleaned before re-use.
6.2. Environmental precautions:	
- Should not be released into the environment. - Do not flush into surface water or sanitary sewer system. - Dam up the liquid spill. - Contain leaking substance, pump over in suitable containers - Notify environmental personnel	
6.3. Methods and material for containment and cleaning:	
Take up liquid spill with inert absorbent material. - Scoop absorbed substance into closing containers. - Carefully collect spill / leftovers. - Equipment must be corrosion resistant. - Flush contaminated areas with large amounts of water and direct rinsings to chemical sewer or collect for treatment.	
Section 7 - HANDLING AND STORAGE	
7.1 Precautions for safe handling	
• Observe strict hygiene - avoid eye and skin contact. • Avoid splashing of material. • Safety showers should be readily available in handling and storage areas. • Eye wash fountains should be located in the work areas and should be immediately accessible for emergency	

Use.

- Remove contaminated clothing immediately.
- When diluting, always add the product to water. Never add water to the product.
- Keep away from incompatible products.

7.2 Conditions for safe storage:

- Store in a well-ventilated area.
- Store at ambient temperature.
- Keep container tightly closed.
- KOH in contact with water or moisture may result in enough heat to ignite combustibles.
- Keep away from: heat sources, highly flammable materials, incompatible products.
- Packaging material
- Suitable: stainless steel, synthetic material / polyethylene, glass
- To avoid: lead, aluminium, copper, tin, zinc, bronze

7.3 Specific end use(s):

- As mentioned in section 1.2

Section 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Threshold Limit Values:	No data available.

8.2 Exposure Control:

• Engineering measures	- Ensure adequate ventilation. - Apply technical measures to comply with the occupational exposure limits.
• Respiratory Protection:	- In the case of dust or aerosol formation use respirator with an approved filter. - Recommended Filter type: P2
• Hand Protection	- Impervious gloves - Suitable material: PVC, Neoprene, Natural rubber, Butyl rubber - Unsuitable material: Leather
• Eye protection	- Wear chemical resistant goggles. - Face shield if risk on splashes.
• Skin protection	- Corrosion proof clothing. - Suitable material: PVC, Neoprene, Natural rubber, Butyl rubber

Section 9 – PHYSICAL & CHEMICAL PROPERTIES:

9.1 General Information:

• Physical state	: Crystalline
• Color	: Colorless
• odour	: odourless
• pH	: 13.5
• Molecular Weight	: 56
• Boiling point/boiling range	: 1327 °C at 1013 hPa
• Melting point	: 406°C
• Auto ignition point	: No data available
• Density	: 2.04 g/cm³ at 20°C
• Specific gravity	: Not available
• Vapour pressure	: <= 1 Pa at <= 520 °C
• Vapour density	: Not available
• Volatility	: Not available
• Solubility	: soluble in water
• log Po/w	: Not available
• Index of refraction	: Not available

Section 10 - STABILITY AND REACTIVITY

• Reactivity	- Potential for exothermic hazard - May be corrosive to metals.
• Chemical stability	: Stable under recommended storage conditions.
• Possibility of hazardous reactions	- Gives of hydrogen by reaction with metals. - Exothermic reaction with strong acids. - Reacts violently with water.
• Conditions to avoid	- Unstable on exposure to air. - Freezing
• Hazardous decomposition products	- Absorbs the atmospheric CO2 - Hydrogen : reacts with (some) metals and their compounds: release of highly flammable gas
• Incompatible materials	: Keep away from: heat sources, oxidizing agents, acids, highly flammable materials, halogens, organic materials - Keep away from: lead, aluminium, copper, tin, zinc, bronze

Section 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Substance	Organism	Test type	Route	Reported dose
Potassium hydroxide	Rat	Acute Oral toxicity	Oral	LD 50 for potassium hydroxide = 333 mg/kg

11.2 Irritation Corrosion:

Skin: Skin Corrosive
Eye: highly corrosive

11.3 Sensitization

- No data available

11.4 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

• Carcinogenicity :	No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
• Mutagenic effects :	Not classified
• Reprotoxic effects :	Not classified

11.5 Other toxic effects on humans:

• Inhalation :	Not available
• Ingestion :	Harmful if swallowed.
• Chronic toxicity :	No data available

11.6 NIOSH Immediately Dangerous To Life or Health Concentration (IDLH):

- No information available

11.7 Specific target organ toxicity:

• Single exposure :	No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure)
• Repeated exposure :	No experimental or epidemiological sufficient evidence for specific target organ toxicity

Section 12 - ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

Substance name	Toxicity	Duration	Endpoint with Effective conc. :
Potassium hydroxide	Short term toxicity to fish: (Test organism ,species: Gambusia affinis)	96 hr	NOEC: 56 mg/L
	Short term toxicity to aquatic invertebrates: (Test organism ,species: zebra mussels)	2 days	EC0 < 1 and EC100 > 10 mg/l
	Toxicity to microorganisms (Test organism, species: Photobacterium phosphoreum)	15 min	EC 50: 22 mg/L

12.2 Persistence and degradability:

No data available

12.3 Bioaccumulative potential:

- No data available

12.4 Mobility in soil:

- No data available

12.5 Results of PBT and vPvB assessment:

- No data available

12.6 Other adverse effects:

- Harmful to aquatic life.

Section 13 - DISPOSAL CONSIDERATIONS

Provisions relating to waste:
- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 06 02 04 (sodium and potassium hydroxide)
- Waste material code (Flanders): 302
- Hazardous waste (91/689/EEC)

Waste Disposal methods:
- Dilute with plenty of water.
- Remove for physico-chemical treatment : neutralisation with pH control
- In accordance with local and national regulations.

Packaging/Container:
- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10 (packaging containing residues of or contaminated by dangerous substances)

Contaminated packaging:
- Where possible recycling is preferred to disposal or incineration.
- Clean container with water.
- In accordance with local and national regulations.

Section 14 - TRANSPORT INFORMATION

Land Transport (ADR/RID)

• UN Number	:	1813
• UN proper shipping name	:	POTASSIUM HYDROXIDE, Solid
• Transport hazard class	:	8
• Packing group	:	II
• Environmental hazards	:	Not regulated
• Labels	:	DANGER LABEL TANKS : 8 DANGER LABEL PACKAGES : 8

Inland waterway transport (ADN(R))

• UN Number	:	1813
• UN proper shipping name	:	POTASSIUM HYDROXIDE, Solid

• Transport hazard class :	8
• Packing group :	II
• Labels :	DANGER LABEL TANKS : 8 DANGER LABEL PACKAGES : 8
Marine transport (IMDG)	
• UN Number :	1813
• UN proper shipping name :	POTASSIUM HYDROXIDE, Solid
• Chemical name:	Potassium hydroxide
• Class:	8
• Packaging group:	II
• EmS code:	8-06
• Labels:	8 CORROSIVE EMS: F-A, S-B
Air transport ICAO/IATA	
• UN Number :	1813
• UN proper shipping name :	POTASSIUM HYDROXIDE, Solid
• Chemical name:	Potassium hydroxide
• Class:	8
• Packaging group:	II
• Labels:	CORROSIVE Solid: Passenger and cargo aircraft: limited quantity Y814 (5 kg per package), 814 (15 kg per package) Cargo aircraft only: 816 (50 kg per package)
Section 15 - REGULATORY INFORMATION	
15.1 Other regulatory information:	
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.	
Safety, health and environmental regulations/legislation specific for the substance or mixture Control of Substances Hazardous to Health Regulations (COSHH) 2002 SI 2002/2677 and COSHH Essentials: Easy steps to control chemicals - Control of Substances Hazardous to Health Regulations HSG193. *Inventory Status* Listed in: Australia (AICS) Canada (DSL/NDSL) China (IECSC) European Union (EINECS/ELINCS) South Korea (KECI) Philippines (PICCS) New Zealand Inventory (NZIoC)	

• HMIS (Hazardous Materials Identification system) classification :	**Health** 3 **Fire** 0 **Reactivity** 2 **Personal Protection** J 3 = Major injury likely unless prompt action is taken and medical treatment is given. 0 = Materials that will not burn. 2 = Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. 
• NFPA (National Fire Protection Association) :	**Health** 3 **Fire** 0 **Reactivity** 1 **Personal Protection** 3 = Short exposure could cause serious temporary or moderate residual injury. 0 = Materials that will not burn under typical fire, including intrinsically noncombustible materials such as concrete, stone and sand 1 = Normally stable, but can become unstable at elevated temperatures and pressures

15.2 Chemical Safety Assessment:

- A chemical safety assessment has been carried out for the substance or the mixture by the supplier (LR) -Yes

Section 16 – OTHER INFORMATION

16.1 Technical Advice:

- Use data given in this Safety Data Sheet and make an inventory list of all chemicals used in the factory
- Create a Register for Workplace Chemicals;
- Set priorities concerning the safety in the organization
- Create emergency plans for the assessed hazards;
- Organize occupational health care and regular surveys as necessary;

• Organize contacts with authorities/laboratories to create a monitoring system for chemical hazards, and to reliably measure and/or estimate occupational exposures to chemicals when needed;
• Start collecting case studies of accidents and sickness records in the enterprise to create a basis for priority measures in the control of hazards;
• Involve workers in safety organizations, such as the system of Safety Representatives and Committees.
• Do regular inspection using checklists made for the particular chemicals and chemical processes in use;
• Mark and label all chemicals;
• Keep at hand an inventory list of all chemicals handled in the place of work together with a collection of Chemical Safety Data Sheets for these chemicals;
• Train workers to read and understand the Chemical Safety Information, including the health hazards and routes of exposure; train them to handle dangerous chemicals and processes with respect;
• Plan, develop and choose the safe working procedures;
• Reduce the number of people coming into contact with dangerous chemicals;
• Reduce the length of time and/or frequency of exposure of workers to dangerous chemicals;
• Train workers to know and understand the emergency procedures;
• Equip and train workers to use personal protective equipment properly after everything possible has been done to eliminate hazards by means of other methods;
16.2 List of relevant R phrases:
R22 - harmful if swallowed R35 - causes severe burns
16.3 List of relevant S phrases:
S1/2 - keep locked up and out of reach of children S26 - in case of contact with eyes, rinse immediately with plenty of water and seek medical advice S36/37/39 - wear suitable protective clothing, gloves and eye/face protection S45 - in case of accident or if you feel unwell, seek medical advice immediately

Created By:
ELC GROUP, momaja s.r.o. Karolinská 650/1 Prague 8, 186 00 Czech Republic VAT: CZ27115119

Contact Person Jastin Sardhara

Note: ELC GROUP, Momaja s.r.o., acting as OR for Soda Chlorate
Date of Preparation: 21, September, 2018

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Soda Chlorate affiliates be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damage.