Safety Data Sheet
acc. to OSHA HCS

Printing date 01/20/2014 Reviewed on 01/20/2014

* **1 Identification**

· **Product identifier**

· Trade name: **Algae and Mildew Remover Power**

· Article number: 10832, 10833, 10825, 10997/10998

· Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.

· Application of the substance / the mixture: Cleaning agent/ Cleaner

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

· Information department: Laboratory

· Emergency telephone number: Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

* **2 Hazard(s) identification**

· **Classification of the substance or mixture**


GHS05 Corrosion

Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC


Irritant
Irritating to eyes and skin.


Dangerous for the environment
Very toxic to aquatic organisms.

Contact with acids liberates toxic gas.

· Information concerning particular hazards for human and environment: The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· Classification system: The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms


GHS05

· Signal word: Danger

· Hazard-determining components of labeling: sodium hypochlorite, solution

· Hazard statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

· Precautionary statements
P101 If medical advice is needed, have product container or label at hand.

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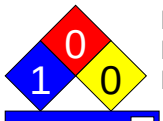
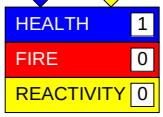
P102	Keep out of reach of children.
P103	Read label before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe mist/vapours/spray.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/ regional/national/international regulations.

· **Classification system:**
· NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

· **Other hazards**
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

3 Composition/information on ingredients

· Description: Mixture: consisting of the following components.

· Dangerous components:

CAS: 7681-52-9 EINECS: 231-668-3 Index number: 017-011-00-1	sodium hypochlorite, solution C R34; Xi R37; N R50 R31 Met. Corr.1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318; STOT SE 3, H335	1-5%
CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6	sodium hydroxide C R35 Met. Corr.1, H290; Skin Corr. 1A, H314	<1%

· Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· General information: Immediately remove any clothing soiled by the product.
No special measures required.
· After inhalation: Supply fresh air; consult doctor in case of complaints.
· After skin contact: Immediately rinse with water.
· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
· After swallowing: Rinse out mouth and then drink plenty of water.

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· Information for doctor:
· Most important symptoms and effects, both acute and delayed: No further relevant information available.
· Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**: Formation of toxic gases is possible during heating or in case of fire.
Hydrogen chloride (HCl)
· **Advice for firefighters**
· Protective equipment: Wear fully protective suit.
Wear self-contained respiatory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**: Not required.
· **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.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
· **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.

*
7 Handling and storage

· **Handling:**
· Precautions for safe handling: Do not seal receptacles gas-tight.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· Information about protection against explosions and fires: No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· Storage:
· Requirements to be met by storerooms and receptacles: Store in a cool location.
· Information about storage in one common storage facility: Do not store together with acids.
Store away from metals.
· Further information about storage conditions: Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.
Protect from frost.
Keep receptacle tightly sealed.

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· Storage class: 8 A
· **Specific end use(s)** No further relevant information available.

* **8 Exposure controls/personal protection**

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· Components with limit values that require monitoring at the workplace:	
7681-52-9 sodium hypochlorite, solution	
WEEL	Short-term value: 2 mg/m³
1310-73-2 sodium hydroxide	
PEL	Long-term value: 2 mg/m³
REL	Ceiling limit value: 2 mg/m³
TLV	Ceiling limit value: 2 mg/m³

· Additional information: The lists that were valid during the creation were used as basis.

· **Exposure controls**
· Personal protective equipment:
· General protective and hygienic measures: Immediately remove all soiled and contaminated clothing.
Do not inhale gases / fumes / aerosols.
· Breathing equipment: Filter B
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· Protection of hands: Akemi skin protection agent recommendation for preventive skin shelter without use of protective gloves:
STOKODERM (http://www.stoko.com)
Akemi skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
STOKO EMULSION (http://www.stoko.com)
Akemi skin protection recommendation for skin cleaning after product handling:
FRAPANTOL (http://www.stoko.com)
Akemi skin protection agent recommendation for skin aftercare:
STOKO VITAN (http://www.stoko.com)
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times´ data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.
This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves
Butyl rubber, BR
Nitrile rubber, NBR
Fluorocarbon rubber (Viton)
Chloroprene rubber, CR
Natural rubber, NR
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
Value for the permeation: Level ≤ 6; 480 min
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:
Nitrile rubber, NBR
Camatril (KCL, Art No. 730, 731, 732, 733)
Dermatril (Art No. 740, 741, 742)
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art No. 890)
Chloroprene rubber, CR
Camapren (KCL, Art No. 720, 722, 726)
Natural rubber, NR
Combi-Latex (KCL, Art No. 395)
Butyl rubber, BR
Butoject (KCL, Art No. 897, 898)

· As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)
Butyl rubber, BR
Butoject (KCL, Art No. 897, 898)

· Not suitable are gloves made of the following materials:
Leather gloves
Strong gloves

· Eye protection:

Tightly sealed goggles

· Body protection:
Protective work clothing

*
9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Fluid
Color:	Yellowish
· Odor:	Chlorine-like
· Odour threshold:	Not determined.
· pH-value at 20 °C (68 °F):	11.5
· Change in condition	
Melting point/Melting range:	Undetermined.

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Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)
· Density at 20 °C (68 °F):	1.07 g/cm³ (8.929 lbs/gal)
· Specific gravity at 20 °C (68 °F):	1.07 g/cm³ (8.929 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C (68 °F):	11 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	0.0 %
Water:	94.2 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity**
· Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· **Possibility of hazardous reactions** Reacts with acids releasing chlorine.
Reacts with certain metals.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Hydrogen chloride (HCl)
Chlorine compounds

*

11 Toxicological information

· **Information on toxicological effects**
· Acute toxicity:
· Primary irritant effect:
· on the skin: Irritant to skin and mucous membranes.
· on the eye: Irritating effect.
· Sensitization: No sensitizing effects known.

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· Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

· NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· Aquatic toxicity: No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· **Additional ecological information:**
· General notes: Do not allow product to reach ground water, water course or sewage system.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
Water hazard class 1 (Self-assessment): slightly hazardous for water
· **Results of PBT and vPvB assessment**
· PBT: Not applicable.
· vPvB: Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· Recommendation: Must be specially treated adhering to official regulations.
Smaller quantities can be disposed of with household waste.

· **Uncleaned packagings:**
· Recommendation: Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
· Recommended cleansing agent: Water, if necessary with cleansing agents.

*
14 Transport information

· **UN-Number**
· DOT, ADR, IMDG, IATA UN1791

· **UN proper shipping name**
· DOT Hypochlorite solutions
· ADR 1791 Hypochlorite solutions, ENVIRONMENTALLY HAZARDOUS
· IMDG HYPOCHLORITE SOLUTION, MARINE POLLUTANT
· IATA HYPOCHLORITE SOLUTION

· **Transport hazard class(es)**

· DOT

· Class 8 Corrosive substances.

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· Label	8
· ADR	
	
· Class	8 (C9) Corrosive substances
· Label	8
· IMDG	
	
· Class	8 Corrosive substances.
· Label	8
· IATA	
	
· Class	8 Corrosive substances.
· Label	8
· **Packing group**	
· DOT, ADR, IMDG, IATA	II
· **Environmental hazards:**	
· Marine pollutant:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· **Special precautions for user**	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	to handle similar to packing group II
· DOT	
· Remarks:	to handle similar to packing group II Special marking with the symbol (fish and tree).
· ADR	
· Remarks:	to handle similar to packing group II
· IMDG	
· Remarks:	to handle similar to packing group II
· IATA	
· Remarks:	to handle similar to packing group II
· **UN "Model Regulation":**	UN1791, Hypochlorite solutions, ENVIRONMENTALLY HAZARDOUS, 8, II

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* **15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· Sara

· Section 355 (extremely hazardous substances):
None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):
All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)
None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

· GHS label elements — The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS05

· Signal word — Danger

· Hazard-determining components of labeling: — sodium hypochlorite, solution

· Hazard statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

· Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe mist/vapours/spray.

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P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/ regional/national/international regulations.

· National regulations:

· Information about limitation of use: Employment restrictions concerning young persons must be observed.

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

· VOC USA 0.0 g/l

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* **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.

· **Department issuing MSDS:** Laboratory

· **Contact:** Dieter Zimmermann

· Date of preparation / last revision 01/20/2014 / -

· 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 Organization
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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)