Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 08/08/2022 Reviewed on 08/08/2022

1 Identification

· **Product identifier**

· **Trade name: KS810 - Dissolved Oxygen Reagent 2**

· **Catalogue number:** 56Z081098, 56L0810, 56L081030, 461160, 427706

· **Application of the substance / the mixture:** Reagent for water analysis

· **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany

· **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

* 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 1	H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

GHS05 Corrosion

Corrosive to Metals 1	H290 May be corrosive to metals.
Skin Corrosion 1A	H314 Causes severe skin burns and eye damage.
Eye Damage 1	H318 Causes serious eye damage.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
· **Hazard pictograms**

GHS05 GHS08

· **Signal word** Danger
· **Hazard-determining components of labeling:**
sodium hydroxide
sodium azide
potassium iodide
· **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

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P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.
P310 Immediately call a doctor.

· **Other hazards**
Acid burns have to treated immediately, as it may otherwise cause badly curing wounds.
The main intake pathways of potassium iodide are: inhalation of dust and solution aerosols, as well as oral ingestion.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** aqueous solution
· **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 RTECS: WB4900000	sodium hydroxide Corrosive to Metals 1, H290; Skin Corrosion 1A, H314	25–35%
CAS: 7681-11-0 EINECS: 231-659-4 RTECS: TT2975000	potassium iodide Specific Target Organ Toxicity - Repeated Exposure 1, H372	10–20%
CAS: 26628-22-8 EINECS: 247-852-1 Index number: 011-004-00-7 RTECS: VY8050000	sodium azide Acute Toxicity - Oral 2, H300; Acute Toxicity - Dermal 1, H310; Acute Toxicity - Inhalation 2, H330; Specific Target Organ Toxicity - Repeated Exposure 2, H373; Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1)	0.25–<1%

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

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Personal protection for the First Aider.
Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air. Call a doctor.
· **After skin contact:**
Immediately rinse with plenty of water.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
· **After eye contact:**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
· **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed**
Irritation and corrosion
after inhalation:
coughing
breathing difficulty
Possible damages: damage of respiratory tract
after swallowing:
strong caustic effect
sickness
vomiting
pain
cramps
after resorption:
drop in blood pressure
weakness
headache
· **Danger:**
Risk of blindness!
Danger of gastric perforation.

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Danger of pulmonary edema.
· **Indication of any immediate medical attention and special treatment needed:**
If swallowed or in case of vomiting, danger of entering the lungs.
Later observation for pneumonia and pulmonary edema.
Absorption: in case of iodine hypersensitivity, even after relatively low doses, acute respiratory and cardiovascular disorders (possibly shock), skin and mucous membrane reactions possible. (GESTIS)
Symptoms of poisoning may even occur after several hours.

*
5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Hydrogen iodide (HI)
Sodium oxide
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
· **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Ensure adequate ventilation
Use respiratory protective device against the effects of fume/dust/aerosol.
· **Advice for emergency responders:** Protective equipment: see section 8

· **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.
· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· **Precautions for safe handling**
· **Advice on safe handling:** Prevent formation of aerosols.
· **Hygiene measures:**
Do not inhale gases / fumes / aerosols.
Do not get in eyes, on skin, or on clothing.
Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.

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Keep only in original container.
· **Information about storage in one common storage facility:**
Store away from metals.
Do not store together with acids.
· **Further information about storage conditions:**
Store locked up or with access restricted to technical experts or their assistants.
Ensure that persons do not handle until all safety precautions have been read and understood.
Protect from heat and direct sunlight.
Protect from exposure to the light.
Protect from humidity and water.
· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
CAS: 1310-73-2 sodium hydroxide	
PEL (USA)	Long-term value: 2 mg/m³
REL (USA)	Ceiling limit value: 2 mg/m³
TLV (USA)	Ceiling limit value: 2 mg/m³
EL (Canada)	Ceiling limit value: 2 mg/m³
EV (Canada)	Ceiling limit value: 2 mg/m³
CAS: 7681-11-0 potassium iodide	
TLV (USA)	Long-term value: 0.01 ppm A4; Skin; *inhalation
CAS: 26628-22-8 sodium azide	
REL (USA)	Ceiling limit value: 0.3** mg/m³, 0.1* ppm *as HN3; **as NaN3; Skin
TLV (USA)	Ceiling limit value: 0.29** mg/m³, 0.11* ppm *as HN3 vapor **as NaN3, A4
EL (Canada)	Ceiling limit value: 0.29* mg/m³, 0.11** ppm *sodium azide;**hydrazoic acid vapour
EV (Canada)	Ceiling limit value: 0.26 mg/m³, 0.1 ppm

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

· **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

· **Personal protective equipment:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
· **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
· **Recommended filter device for short term use:** Combination filter B-P2
· **Protection of hands:**
Alkaline resistant gloves
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
· **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
· **Penetration time of glove material**
Value for the permeation: Level ≤ 1 (10 min)
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
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
· **Body protection:** Alkaline resistant protective clothing

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· **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**	
· **Form / Physical state:**	Solution
· **Color:**	Clear
· **Odor:**	Odorless
· **Odor threshold:**	Not applicable.
· **pH-value at 20°C (68°F):**	> 12
· **Melting point/freezing point:**	Not determined.
· **Initial boiling point and boiling range:**	Not determined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	The product is not combustible.
· **Ignition temperature:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Flammability or explosive limits:**	
· **Lower:**	Not applicable.
· **Upper:**	Not applicable.
· **Oxidizing properties:**	none
· **Vapor Pressure:**	Not determined.
· **Density at 20°C (68°F):**	1.64 g/cm³ (13.69 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility(ies)**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not applicable (mixture).
· **Viscosity:**	
· **Kinematic:**	Not determined.
· **Other information**	
· **Solids content:**	40 - 50 %
· **Solvent content:**	
· **Organic solvents:**	0 %
· **Water:**	50 - 60 %

· **Information with regard to physical hazard classes** May be corrosive to metals.

* 10 Stability and reactivity

· **Reactivity** see section "Possibility of hazardous reactions"
· **Chemical stability** Stable at ambient temperature (room temperature).
· **Possibility of hazardous reactions**
Reacts with metals forming hydrogen (Danger of explosion in case of large amounts!)
Corrosive action on metals.
Contact with acids releases toxic gases.
Reacts with alkaline metals.
Reacts with peroxides.
Reacts with halogenated compounds.
Reacts with strog acids and oxidizing agents.
Reacts with reducing agents.
Reacts with alcohols.
Reacts with ammonia (NH_3).
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
metals
light metals

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organic substances
· **Hazardous decomposition products:** see section 5

* 11 Toxicological information

· **Information on toxicological effects**

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

· **Acute toxicity estimate ($ATE_{(MIX)}$) - Calculation method:**		
Oral	GHS $ATE_{(MIX)}$	3492 mg/kg (.)
Dermal	GHS $ATE_{(MIX)}$	2707 mg/kg (.)
Inhalative	GHS $ATE_{(MIX)}$	>7.7 mg/l/4h (aerosol (dust, mist))

· **LD/LC50 values that are relevant for classification:**		
CAS: 1310-73-2 sodium hydroxide		
Oral	LDLo	500 mg/kg (rabbit) (IUCLID)
CAS: 7681-11-0 potassium iodide		
Oral	LD50	2779 mg/kg (rat)
Dermal	LD50	3160 mg/kg (rabbit)
	NOAEL	0.01 mg/kg /bw/d (human) organ: Thyroid
CAS: 26628-22-8 sodium azide		
Oral	LD50	27 mg/kg (rat) (RTECS)
	LDLo	29 mg/kg (human)
Dermal	LD50	20 mg/kg (rabbit) (ECHA)
Inhalative	LC50/4h	>0.052 mg/l (rat) (dust, aerosol) (ECHA: LC_{50}= 0,052 - 0,52 mg/l)
	LC50	1.853 mg/l/1h (rat) (Registrant, ECHA)

· **Primary irritant effect:**

· **on the skin:**
Strong caustic effect on skin and mucous membranes.
Causes severe skin burns.
· **on the eye:**
Causes serious eye damage.
Risk of blindness!

· **Sensitization:** Based on available data, the classification criteria are not met.
· **Information on components:**
The following applies to iodides in general: Sensitation possible at predisposed persons.

CAS: 1310-73-2 sodium hydroxide		
Sensitization	Patch test (human)	(negative)

· **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.

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

· **Other information:** see section 8 / 15

· **Synergistic Products:** None

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

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· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
· **STOT (specific target organ toxicity) -repeated exposure**
Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

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

· **Information on components:**
OECD 414: Teratogenicity testing
OECD 473: Mutagenicity testing
OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-11-0 potassium iodide	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) Mouse (lymhoma L5178Y cells)

· **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

CAS: 1310-73-2 sodium hydroxide
. (source: GESTIS) Main toxic effects: Acute: strong irritation and caustic effect on all contacted mucous membranes and the skin, risk of irreversible eye damage (risk of blindness) Chronic: Irritant effect on eyes, respiratory tract and skin Further information: Irrespective of the route of exposure, the focus is on the local effect, which is characterized by swelling and dissolution of the contacted tissue (colliquation necrosis) that progresses rapidly in depth. The extent of the tissue damage essentially depends on the duration of exposure, concentration, pH value, dose and onset of treatment measures.

CAS: 7681-11-0 potassium iodide
. (source: GESTIS) Main Toxic Effects: Acute: Irritation to the eyes, skin and airways, disturbance of thyroid function, cardiovascular effects, metabolic disturbances. Chronic: Disturbance of thyroid function, systemically conditioned skin damage and inflammation of the mucous membranes. Furter Information (GESTIS, Merck): Small amounts of iodine are essential for the body. However, long-term overdoses of iodine lead to disturbances in the thyroid function (hypo- and/or hyperthyroidism, possibly accompanied by thyroiditis). The effects are very complex. Furthermore, symptoms of chronic iodine poisoning (iodine toxicosis, "iodism") can occur following intake of high doses of predisposed persons. They mainly consist of systemically conditioned irritation/inflammatory changes to the mucous membranes and skin. Iodide crosses the placenta and, when administered (orally) to pregnant women in very high doses, can lead to hypothyroidism and/or goiter in the fetus with deaths from tracheal compression

CAS: 26628-22-8 sodium azide
. (source: GESTIS) Main toxic effects: Acute & chronic: disorders in the cardiovascular and nervous systems Further information: In the industrial sector, various symptoms have been observed after dermal and/or inhalation exposure to sodium azide, which indicate systemic intoxication: drop in blood pressure, bradycardia, dizziness, headache, palpitations, metabolic acidosis, sometimes also paraesthesia and reduced muscle strength. A large number of case reports are available on poisoning after ingestion: Rapid onset of dilatation of peripheral vessels and severe drop in blood pressure are characteristic. N. also has a direct (spasmodic) effect on the CNS. Usual symptoms of N. poisoning are tachycardia, headache, weakness, dizziness, nausea, convulsions, collapse. Shortness of breath, vomiting, diarrhea, upper abdominal pain, sweating, restlessness and visual disturbances were also described.

· **Other information** Other dangerous properties can not be excluded.

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* 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
CAS: 1310-73-2 sodium hydroxide	
LC50	40.4 mg/l/48h (Ceriodaphnia sp.) (ECHA)
CAS: 7681-11-0 potassium iodide	
EC50	7.5 mg/l/48h (Daphnia magna) (OECD 202) Merck
LC50	3780 mg/l/96h (rainbow trout) (OECD 203) Merck
CAS: 26628-22-8 sodium azide	
EC50	4.2 mg/l/48h (Daphnia magna) (ECOTEX)

· **Bacterial toxicity:**	
CAS: 1310-73-2 sodium hydroxide	
EC50	22 mg/l (Photobacterium phosphoreum) (15 min)

· **Persistence and degradability** .
· **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
· **Bioaccumulative potential**
Pow = n-octanol/wasser partition coefficient
log Pow < 1 = Does not accumulate in organisms.

CAS: 26628-22-8 sodium azide	
log Pow	0.3 (.) (OECD 117) (Merck)

· **Mobility in soil** No further relevant information available.
· **Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Reacts with water to form toxic decomposition products.
Avoid transfer into the environment.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

* 14 Transport information

· **UN-Number**	
· **DOT, IMDG, IATA**	UN1824
· **UN proper shipping name**	
· **DOT**	Sodium hydroxide solution
· **IMDG, IATA**	SODIUM HYDROXIDE SOLUTION

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· **Transport hazard class(es)**

· **DOT**

· **Class**	8 Corrosive substances
· **Label**	8

· **IMDG, IATA**

· **Class**	8 Corrosive substances
· **Label**	8
· **Packing group**	
· **DOT, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances
· **Hazard identification number (Kemler code):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	(SGG18) Alkalis
· **Stowage Category**	A
· **Segregation Code**	SG35 Stow "separated from" SGG1-acids
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

* 15 Regulatory information

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

· **Section 355 (Extremely hazardous substances):**

CAS: 26628-22-8	sodium azide

· **Section 313 (Specific toxic chemical listings):**

CAS: 26628-22-8	sodium azide

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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· **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.

· **New Jersey Right-to-Know List:**

CAS: 1310-73-2	sodium hydroxide
CAS: 26628-22-8	sodium azide

· **New Jersey Special Hazardous Substance List:**

CAS: 1310-73-2	sodium hydroxide	CO, R1
CAS: 26628-22-8	sodium azide	R3

· **Pennsylvania Right-to-Know List:**

CAS: 1310-73-2	sodium hydroxide
CAS: 26628-22-8	sodium azide

· **Pennsylvania Special Hazardous Substance List:**

CAS: 1310-73-2	sodium hydroxide	E
CAS: 26628-22-8	sodium azide	E

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

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

· **Information about limitation of use:**
Observe national regulations where applicable:
Employment restrictions concerning young persons must be observed.

· **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.

· **Relevant phrases**
H290 May be corrosive to metals.
H300 Fatal if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

· **Date of preparation / last revision** 08/08/2022 / 6

· **Abbreviations and acronyms:**
OECD: Organisation for Economic Co-operation and Development
STOT: specific target organ toxicity
SE: single exposure
RE: repeated exposure
EC50: half maximal effective concentration
IC50: hallf maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ACGIH® - American Conference of Governmental Industrial Hygienists
•A1 - Confirmed human carcinogen
•A2 - Suspected human carcinogen
•A3 - Confirmed animal carcinogen with unknown relevance to humans
•A4 - Not classifiable as a human carcinogen
•A5 - Not suspected as a human carcinogen
IARC - International Agency for Research on Cancer
•Group 1 - Carcinogenic to humans
•Group 2A - Probably carcinogenic to humans
•Group 2B - Possibly carcinogenic to humans
•Group 3 - Not classifiable as to carcinogenicity to humans
•Group 4 - Probably not carcinogenic to humans

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NTP - National Toxicology Program, U.S. Department of Health and Human Services
•Group K - Known to be Human Carcinogens
•Group R - Reasonably Anticipated to be Human Carcinogens
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Corrosive to Metals 1: Corrosive to metals – Category 1
Acute Toxicity - Oral 2: Acute toxicity – Category 2
Acute Toxicity - Dermal 1: Acute toxicity – Category 1
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **Sources**
Data arise from safety data sheets, reference works and literature.
ECHA: European CHemicals Agency http://echa.europa.eu
ECOTOX Database
GESTIS- Stoffdatenbank (Substance Database, Germany)

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