ZETTEX

# *Safety Data Sheet*

***in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) № 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)***

**Issue date**: **23.03.2020** **Revision date: ------**
**Issue 1** **Issue: ------**

## SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

**1.1 Product identifier –** Zettex Handgel
**1.2. Relevant identified uses of the substance or mixture and uses which are contraindicated:** Cleaning gel for heavily soiled surfaces.

### 1.3. Details of the safety data sheet provider

***Zettex Europe BV***
***Plaza 20, 4782 SK Moerdijk***
***The Netherlands***
***+31(0)888-938839***
***info@zettex.nl***
***www.zettex.nl***

### 1.4. Emergency Telephone Number:
Zettex Europe BV 031 (0) 888 938 839 (Mon-Fri 09:00-17:00)

## SECTION 2: Identification of hazards

### 2.1. Classification of the substance or mixture
**2.1.1 Classification according to Regulation (EC) No: 1272/2008 (the CLP Regulation)**

**Flam. Liq. 2** - Flammable liquids, Hazard Category 2, H225 Highly flammable liquid and vapour.

**Eye Irrit. 2** - Serious eye damage/eye irritation, Hazard Category 2, H319 Causes serious eye irritation.

**STOT SE 3 -** Specific target organ toxicity — Single exposure, Hazard Category 3, Narcosis, H336 May cause drowsiness or dizziness.

## 2.2. Label elements

### 2.2.1. Labeling according to Regulation (EC) No: 1272/2008

**Hazard Pictograms**

**GHS02** **GHS07**

**Signal Word::** Danger

**Hazard statement:**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

**Precautionary statements:**
P102 Keep out of reach of children
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P261 Avoid breathing vapours.

Contains:: 73% Denatured Ethyl Alcohol (CAS № 64-17-5).

**2.3. Other hazards:** The product may cause eye irritation in the case of contact with eyes. If such symptoms occur, rinse thoroughly with water and seek medical advice.

**PBT/vPvB** - On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0.1%.

**SECTION 3: Composition / Information on ingredients**

**3.1. Substances:** Information is not relevant.

**3.2. Mixture:**

| SUBSTANCE | w/w % | CAS № | EC № | According to Regulation 1272/2008/EC | |
|---|---|---|---|---|---|
| | | | | Hazard class and category | H-phrases |
| Denatured Ethyl Alcohol | 73 | 64-17-5 | 200-578-6 | Flam. Liq. 2 - Flammable liquids, Hazard Category 2<br><br>Eye Irrit. 2 - Serious eye damage/eye irritation, Hazard Category 2<br><br>STOT SE 3 - Specific target organ toxicity — Single exposure, Hazard Category 3 | H225<br>H319<br>H336 |

**SECTION 4: First Aid Measures**

**4.1 Description of First Aid Measures**

***In case of inhalation:*** Move the victim to a fresh air location and place in a comfortable breathing position. If the person is not breathing, breathing is irregular, or stops altogether, perform artificial respiration or have qualified personnel apply oxygen. Seek medical attention if adverse health effects are persistent or severe. If the person is unconscious, put him/her lying on one side and seek medical attention immediately. Ensure a constant supply of air. Loosen tight clothing such as collar, tie, belt or waistband. The exposed person may need to remain under medical supervision for 48 hours.

***Following contact with the skin:*** Wash contaminated skin with copious amounts of water. Remove contaminated clothing and shoes. Continue washing skin for at least 10 minutes. Consult a doctor. Wash contaminated clothing before reusing it. Carefully clean the shoes before reusing them.

***Following contact with the eyes:*** Rinse eyes immediately with copious amounts of water, occasionally lifting the upper and lower eyelids. Remove contact lenses, if any. Continue to rinse for at least 10 minutes. Consult a doctor. If eye irritation persists, consult a specialist.

***In case of ingestion:*** Rinse mouth with water. Remove dentures, if any. Move the victim to a fresh air location and place in a comfortable breathing position. If the substance is ingested and the person is conscious, let him/her drink small amounts of water. Stop if the victim gets nauseous as vomiting can be dangerous. Do not induce vomiting unless advised by medical personnel. If vomiting occurs, the head should be kept low to prevent vomit from entering the lungs. Seek medical attention if adverse health effects are persistent or severe. Never administer anything by mouth to an unconscious person. If the person is unconscious, put him/her resting on one side and seek medical attention immediately. Ensure a constant supply of air. Loosen tight clothing such as collar, tie, belt or waistband.

***Protection of first aid caregivers*:** No action should be taken if it creates risk for people or for which there is no adequate training. It can be dangerous for the person performing mouth-to-mouth resuscitation.

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

**Symptoms of overexposure:**

| | |
|---|---|
| Contact with eyes | Adverse symptoms may include the following: pain, tears, redness. |
| Inhalation | Inhalation of high concentrations of vapours may cause respiratory irritation, headache, nausea. |
| Contact with skin | Irritation, redness. |
| Ingestion | Central nervous system depression, nausea/vomiting, symptoms similar to alcohol intoxication. |

In the context of manufacturing activities, the main way ethanol gets into the human body is through the respiratory tract. Signs and symptoms of eye irritation may include burning, redness, swelling and/or blurred vision. Signs and symptoms of skin irritation may include burning, redness or swelling. If the material has entered the lungs, symptoms may include coughing, suffocation, wheezing, difficulty breathing, shortness of breath and/or fever. Breathing high concentrations of vapour can lead to depression of the central nervous system as a result of dizziness, confusion, headache, nausea and loss of coordination. Prolonged inhalation can lead to loss of consciousness.

**4.3 Indications in case immediate medical attention and special treatment are needed**: In the case of inhaling smoke from burning products symptoms may not be immediately apparent. It might be necessary to place the exposed person under medical observation for 48 hours.

**Caution! In case the victim vomits:** There is risk of aspiration. Keep the airways clear. Do not give anything in the mouth of an unconscious person. Get medical attention immediately.

## SECTION 5: Firefighting Measures

### 5.1. Extinguishing agents:

**Suitable:** Alcohol resistant foam, dry powder, water spray or mist, sand.
**Unsuitable:** Do not use extinguishing agents which can cause chemical or physical reactions and may lead to additional danger!

### 5.2 Specific hazards arising from the substance or mixture:

Beware of the possibility of re-ignition. This product produces flammable vapours that can form explosive mixtures with the air. Vapours with a source of ignition can create a flash fire, not UVCE. Avoid sewerage due to danger of fire or explosion. Containers may explode from the heat caused by fire.

Use a water jet to cool the exposed containers and disperse the vapour.

Water contaminated with this material must be collected and prevented from seeping into any waterways, sewer systems or drains.

During combustion, the following can be released: CO, CO2, nitrogen oxides.

**5.3 Advice for fire-fighters**:

**Special protective equipment for fire-fighters**: While in the danger area, wear self-contained breathing apparatus and protective suit!
**Additional information:** Cool endangered containers with water jets from a safe distance. Collect the contaminated extinguishing water separately. It must not be discharged into drains. Look out for flashovers!
Use suitable respiratory equipment. Wear fully protective suit and self-contained breathing apparatus. Collect separately contaminated water used to extinguish fire. Do not empty into drains.
Fire-fighters must be provided with specialized equipment (including helmets, safety boots and gloves) complying with European standard EN 469 to provide a basic level of protection against chemical incidents.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency

**6.1.1. For Non-Emergency Personnel:** Actions that pose risk to people or those for which there is no proper training should not be taken. Evacuate adjacent sections. Do not allow surplus personnel and unprotected personnel to enter. Do not touch or step in the spilled material. Close all ignition sources. Do not allow sparks, smoking or vapours to enter the hazardous area. Do not breathe dust/vapours. Provide adequate ventilation. Wear suitable breathing apparatus when ventilation is insufficient. Wear suitable personal protective equipment.

**6.1.2. For Emergency Personnel:** Respiratory protection is required. Wear gloves and protective clothing. Move people to a safe place.

**6.2. Environmental precautions:** ***in case of spills, cover with inert material.*** Avoid spillage of material as well as its contact with soil, waterways and sewers. Inform the relevant competent authorities if the product causes contamination (such as sewers, water mains, soil or air). May be harmful to the environment if released in large quantities.

### 6.3. Methods and materials for containment and cleaning up:

| | |
|---|---|
| Small spills | Remove containers from spill area. Use spark-proof and explosion-proof tools. Put the spilled material in a labeled, trash receptacle. Submit for disposal to a licensed company. |
| Large spills | Prevent spillage if it can be done risk-free. Remove containers from spill area. Approach scattered material downwind. Do not allow material to enter sewage system, water supply, basements or enclosed areas. Hose spillage material towards a treatment plant or proceed as follows: Collect and absorb spillage with non-combustible absorbent materials, such as sand, earth, vermiculite, kieselguhr and place in disposal container in accordance with national regulations. Submit for disposal to a licensed company. Contaminated absorbent material can create |

the same hazard as the spilled product.

**6.4 Reference to other sections:** see sections 1, 8 and 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling:

Avoid inhaling vapours. Put on appropriate personal protective equipment (see section 8). Do not allow material to get into eyes, skin or clothes. Do not inhale fumes. Do not ingest. Use only with adequate ventilation. Wear suitable breathing apparatus when ventilation is insufficient. Store in the original package or in an approved alternative container made of compatible material, tightly closed when not in use. Electrical equipment and lighting must be protected to an appropriate standard. Take precautions against electrostatic discharge. To prevent fire or explosion, disperse static electricity during transfers by grounding and securing containers and equipment before transferring material. Empty packages contain residues and can be dangerous. Do not reuse used packaging.

**General (occupational hygiene)**: Do not consume food and beverages at work. Workers should wash their hands and face before eating, drinking and smoking. Before entering the eating areas, remove contaminated clothing and protective equipment. See also section 8 for further information on hygiene measures. Wash hands after work.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and / or containers: Keep containers tightly closed in a cool, well-ventilated place when not in use. Do not overfill the vessels. Use properly labeled containers. Keep away from heat and sources of ignition. Do not handle sparkling objects in the vicinity. Use explosion-proof lighting fixtures and appliances. Take appropriate precautions when opening sealed containers as pressure may increase during storage. Cleaning, inspection and maintenance of storage tanks is a special operation that requires rigorous procedures and precautionary measures.

Conditions for storage: Store away from oxidizing agents.

**7.3 Specific end use(s):** Cleaning gel for heavily soiled surfaces.

## SECTION 8: Exposure controls/Personal protection

### 8.1. Control Parameters

Information not available.

### 8.2 Exposure control

**Appropriate technological controls:** Ensure effective ventilation of the workplace. If work activity generates dust, smoke, gas, steam or mist, use closed processes, local exhaust ventilation or other technical means to maintain the employees' exposure to harmful substances in the air below the recommended or statutory limit values. Use explosion-proof ventilation equipment.

**Individual protection measures, such as personal protective equipment**: ***These precautionary measures are for industrial use only and not for domestic purposes.***

**Respiratory protection:** Depending on the risk and possible exposure, choose a respirator for air purification or air supply that meets the relevant standard or certification. Respirators should be used according to a respiratory protection program to ensure proper adherence, training and other important aspects of use.

**Hand protection:** Use chemical resistant gloves classified according to EN374 - protective gloves against chemicals and micro-organisms. Examples of preferred protective gloves materials include: nitrile / butadiene rubber ("nitrile" or "NBR"); chlorinated polyethylene; butyl rubber; polyethylene. Examples of acceptable protective gloves materials include: natural rubber ("latex"); neoprene; Viton; ethyl vinyl alcohol laminate ("EVAL"). A glove with a protection class of 4 or higher is recommended (puncture time greater than 120 minutes as per EN 374). When only a short contact is expected, gloves with a protective grade 1 or higher (puncture time greater than 10 minutes as per EN 374) are recommended. Gloves should be replaced regularly and if there is any sign of damage to the material. Always check if the gloves are defective and stored and used properly. The efficiency or effectiveness of the glove can be reduced by physical / chemical damage and poor maintenance.
WARNING: When choosing a specific glove for use and the duration of usage at the workplace, consider all factors of the workplace that are relevant, such as, but not limited to: Other chemicals that might be processed, physical requirements ( cut / puncture protection, wearing comfort, thermal protection), potential reactions of the body to the glove materials, as well as instructions / specifications provided by the supplier. Considering the parameters specified by the glove manufacturer, during use it should be checked that they still retain their protective properties.

**Eyes/face protection:** Safety goggles or masks meeting approved standards must be used when a risk assessment indicates that it is necessary to avoid splashing with liquids, vapours, gases or dust. If contact is possible, the following protective equipment should be worn unless the rating indicates a higher level of protection: side-shield goggles. If inhaled, breathing apparatus with full-face mask might be required.

**Skin protection:** Appropriate footwear and any additional skin protection products should be selected according to the activity being performed and the risks involved and should be approved by a specialist before handling this product.
**Hygiene measures**: Wash hands and elbows thoroughly after handling chemicals, before eating, smoking and using the toilet and at the end of the work day. Appropriate removal techniques for potentially contaminated clothing should be used. Wash contaminated clothing before reusing it. Provide eyewash areas and showers near work area.

**Environment exposure controls:** Ventilation or process equipment emissions must be checked for compliance with environmental legislation.
Scrubbers, filters, or technical improvements to process equipment may be required in some cases to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| External appearance: | Gel-like liquid |
| Colour: | colorless |
| Odour: | Characteristic. Alcohol odour. Specific for the raw material. |
| Odour threshold: | No information available |
| PH | No information available |
| Melting point/Freezing point: | -114 ºC (at 101325 Pa) |
| Initial boiling point and boiling range: | 78 ºC (at 101325 Pa) |
| Flash point: | No information available |
| Evaporation rate: | No information available |
| Flammability (solid, gas): | No information available |
| Upper/lower flammability or explosive limits: | No information available |
| Vapour pressure: | 5726 Pa at 20 ºC |
| Vapour density: | No information available |
| Relative density: | 0,7844 at 25 ºC |
| Solubility (-ies) | Fully soluble in water |
| Partition coefficient: n-octanol/water: | - 0,35 at 20 ºC |
| Auto-ignition temperature: | 363 ºC at 101325 Pa |
| Decomposition temperature: | Not applicable |
| Viscosity: | 1,2 mPas at 20 ºC |
| Explosive properties: | Not applicable. The product is not explosive. |
| Oxidizing properties: | Not applicable |

**9.2 Additional information:** No additional information is available.

## SECTION 10: Stability and Reactivity

**10.1. Reactivity:**

May react violently with very strong oxidizing agents (e.g. perchlorates).

**10.2. Chemical stability:**

Chemically resistant under normal conditions.

**10.3. Possibilities of hazardous reactions:**

No recorded hazardous reactions with proper use.

**10.4. Conditions to avoid:**

High temperatures. Proximity to ignition sources.

**10.5. Incompatible materials:**

Strong mineral acids, oxidizing agents. Aluminum at high temperature.

**10.6. Hazardous decomposition products:**

Under normal conditions of storage and use, hazardous decomposition products are not expected to be released. Carbon oxides can be released in case of fire.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects:

Based on available toxicological information, the mixture is not classified in the acute toxicity category.

ORAL (OECD401 equivalent): LD50 rat: 6.2 - 15g / kgbw (ethanol)

INHALATION (OECD403 equivalent): Rat LC50 (4hr)> 50 mg / l (ethanol)

DERMAL: LD: 15800 mg/kg

| | |
|---|---|
| **Corrosivity/skin irritation** | Based on available data, the product is not classified in this hazard class.<br>May cause slight skin irritation. OECD Guideline 404 (Acute Dermal Irritation/Corrosion) |
| **Serious eye damage/Eye irritation** | Based on available data, the product is classified in this hazard class.<br><br>Light to moderate irritation. OECD Guideline 405 (Acute Eye Irritation/Corrosion) |
| **Respiratory or skin sensitization** | Based on available data, the product is not classified in this hazard class..<br>OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| **Germ cell mutagenicity** | Based on available data, the product is not classified in this hazard class. |
| **Carcinogenicity** | Based on available data, the product is not classified in this hazard class. |
| **Reproductive toxicity** | Based on available data, the product is not classified in this hazard class. |
| **STOT – single exposure** | Based on available data, the product may cause drowsiness or dizziness. |
| **STOT – repeated exposure** | Based on available data, the product is not classified in this hazard class. |
| **Aspiration hazard** | Based on available data, the product is not classified in this hazard class. |

## SECTION 12. Ecological information

### 12.1. Toxicity:

The following data is for the substance ethanol:

FRESHWATER - RELIABLE

Chlorella vulgaris; EC50 (72hr) = 275mg/l; EC10 (72hr) = 11.5mg/l

Selenastrum capricornutum EC50 (72hr) = 12900mg/l; EC10 (72hr) = 440mg/l

Chlamydomonas eugametos: EC50 (48hr) ~ 18000mg/l NOEC (48hr) = 7900mg/l

Gomphonema spp, 48hr EC0 > 395mg/L

Gomphonema gracile, 48hr EC0 > 395mg/L

Navicula cryptotenella, 48hr EC0 > 395mg/L

Ulnaria ulna, 48hr EC0 > 395mg/L

Achnanthidium minutissimum, 48hr EC0 > 395mg/L

Eunotia cf incisa, 48hr EC0 > 395mg/L

Cympella sp, 48hr EC0 > 395mg/L

Encyonema gracilis, 48hr EC0 > 395mg/L

SEAWATER -RELIABLE

Skeletonema costatum: EC50 (9 day): 10940 mg/l; NOEC (5 days): 3240mg/l

Ulva pertusa: EC50 (96hr): 14900mg/l, NOEC: 3900mg/l

Skeletonema costatum (96hr) EC50: 7000mg/l.

Dunaliella tertiolecta (96hr) EC50:12000mg/l.

Heterosigma akashiwo (96hr) EC50: 1900mg/l.

Tetraselmis tetrathele (96hr) EC50: 15000mg/l.

Isochrysis galbana (96hr) EC50: 12000mg/l.

Chaetoceros calcitrans (96hr) EC50: 5500mg/l.

Pavlova lutheri (96hr) EC50: 9000mg/l.

EC50 for freshwater algae: 275 mg/L

EC50 for marine water algae: 1 900 mg/L

EC10 or NOEC for freshwater algae: 11.5 mg/L

EC10 or NOEC for marine water algae: 1 580 mg/L

## Additional information

In a study which followed the basic principles of a guideline study, two green algae Chlorella vulgaris and Selenastrum capricornutum were exposed to ethanol at sufficient concentrations to enable EC50 values to be established. Exposure was carried out over 5 days with daily measurements of growth characterised by chlorophyll measurement. The dose response curve obtained was very shallow. The four day data presented showed some evidence that the control had passed the exponential growth phase. Basing the results on the 3 day measurements when exponential growth was still clearly evident, ethanol showed slight toxicity to the Chlorella species but not to the Selenastrum species. EC10 (72hr) values were= 11.5mg/l and 440mg/l respectively. EC50 (72hr) values were 275mg/l and 12900mg/l respectively.

In a well described study, the marine diatom Skeletonema costatum was exposed to ethanol for a period of 5 days and at concentrations sufficient to derive both an EC50 value and a NOEC. From the results, ethanol was not toxic to this species.

In a study designed to assess the 96hr acute toxicity to marine algae Ulva, ethanol was found to have an EC50 of 14.1g/l and an EC0 of 3.9g/l when assessed using an end point of spore release inhibition.

In a study of a number of herbicides, ethanol was used as the vehicle. No adverse effects were seen on the diatoms Gomphonema spp, Gomphonema gracile, Navicula cryptotenella, Ulnaria ulna, Achnanthidium minutissimum, Eunotia cf incisa, Cympella sp and Encynoema gracilis from 48hr exposure to 395mg/L of ethanol compared to the water control.

### 12.2. Persistence and degradability:

Ethanol is readily biodegradable. BOD20 = 84%.

The substance is expected to be readily degradable in wastewater treatment plants.

**12.3 Bioaccumulative capacity:** Based on the partition coefficient, the substance has low bioaccumulation potential.

**12.4 Mobility in soil:**

If ethanol is released into the air or water, it will dissipate quickly. If released into the soil, it will evaporate at a rapid rate. The product is unstable and soluble in water. If released into the environment, the product will be distributed into air and water. The product is poorly absorbed in soil or sediment.

**12.5. PBT and vPvB assessment results:** According to Annex XIII of Regulation (EC) No. 1907/2006 - REACH is not persistent, bioaccumulative and toxic (PBT) nor very persistent and very bioaccumulative (vPvB).

Sustainability assessment: Ethanol is readily biodegradable.

Bioaccumulation assessment: LogKow <4.5

**12.6 Other adverse effects:** Not known.

## SECTION 13: Disposal considerations

| **13.1 Waste treatment methods** | |
|---|---|
| Packaging/container waste | 15 01 10* - packaging containing residues of dangerous substances or contaminated with dangerous substances. |
| Waste treatment according to current legislation | The manufacturer must treat large quantities of empty or defective packaging in accordance with applicable legislation. Industrial wastewater containing the product is treated in accordance with applicable legislation.<br>Waste generation should be avoided or minimized where possible. Waste packaging must be recycled. This material and its container must be disposed of in a safe way. |

## SECTION 14: Transportation information

| | |
|---|---|
| **14.1. UN number** | ADR/RID: 1170 IMDG: 1170 IATA: 1170 |
| **14.2. UN proper shipping name** | ADR/RID: ETHANOL<br>IMDG: ETHANOL<br>IATA: Ethanol |
| **14.3. Transport hazard class(es)** | 3, F1 |
| **14.4. Packaging group** | II |
| **14.5. Environmental hazards** | Not applicable. |
| **14.6. Special precautions for users** | Not applicable. |
| **14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not applicable. |

## SECTION 15: Regulatory information

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

- Regulation (EC) 1272/2008 of the European Parliament and of the Council of December 16, 2008, on the Classification, Labeling and Packaging of Substances and Mixtures (the CLP Regulation);
- Regulation (EC) № 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH);
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation,

Authorisation and Restriction of Chemicals (REACH);
- European Agreement concerning the international carriage of Dangerous Good by Road
- The Management of Wastes Act;
- The SEVESO III Directive.
This product is within the application field of the Seveso III Directive: P5a / P5b /P5c.

## SECTION 16. Other information

The classification is based on the data and materials of the manufacturer and the original Safety Data Sheets, applicable legislation, EU directives and regulations. The information in this Safety Data Sheet is to the best of our knowledge at the time of publication. This information is only for proper and safer handling, storage, transportation and disposal of the product. Sheet should not be viewed as a guarantee or clarification of product quality. *This information applies only to the material specifically stated and does not apply if it is used in combination with other materials or with other processes not explicitly mentioned in the text of the Safety Data Sheet. We provide our clients with individual advice and, if requested and when possible, will also provide testing.*

**Complete text of the hazard statement:**

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

**Main References and Information Sources:**


- ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Комисия на Европейската Общност
- SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
- Summary of Classification and Labelling - http://echa.europa.eu/
- European Commission DG Joint Research Centre, Institute of Health and Consumer Protection Toxicology and Chemical Substances (TCS) European Chemicals Bureau;
- EUR 23040 EN/2 European Union Summary Risk Assessment Report sodium hydroxide Editors: K. Aschberger, O. Cosgrove, W. De Coen, B-O. Lund, S. Pakalin, A. Paya-Perez, S. Vegro. Luxembourg: Office for Official Publications of the European Communities 2008 – VIII pp., 194 pp. – 17.0 x 24.0 cm EUR – Scientific and Technical Research series; ISSN 1018-5593


ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMDG: International Maritime Dangerous Goods Code
CAS: Unique identification number of compounds, polymers, biological sequences of nucleotides or amino acids, mixtures and alloys entered in the register of the Chemical Abstracts Service, a division of the American Chemical Society. CAS numbers are written as a sequence of three Arabic numerals, separated by dashes.
GHS: The Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European INventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
LC50: Lethal Concentration, 50%
LD50: Lethal Dose, 50%
PBT: Persistent, Bioaccumulative and Toxic substances
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative substances