(10842)



SOLENIS
# SAFETY DATA SHEET

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CSW 20

35631

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | |
|---|---|---|
| Solenis LLC<br>500 Hercules Road<br>Wilmington, Delaware 19808 | Contact us at | www.solenis.com |
| | Emergency telephone number | 1-844-SOLENIS (844-765-3647) /<br>606-329-5705 |
| Product name | CSW 20 | |
| Product code | 35631 | |

## 2. HAZARDS IDENTIFICATION

APPROVED MATERIAL
MAY 14 2015
MSDS # 10842
APPROVED BY

**Emergency Overview**

Appearance: liquid, yellow

DANGER!

**Potential Health Effects**

**Exposure routes**
Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

**Eye contact**
Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness.

**Skin contact**
Can cause permanent skin damage. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage. The feeling of irritation or pain may be delayed.

**Ingestion**
Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury.

**Inhalation**
Breathing of vapor or mist is possible. Breathing this material may be harmful or fatal.Symptoms may include severe irritation and burns to the nose, throat, and respiratory tract. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

**Aggravated Medical Condition**
Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, Skin, Upper respiratory tract, lung (for example, asthma-like conditions), immune system

**Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Cough, discomfort in the chest, hair loss, Difficulty in breathing, lung edema (fluid buildup in the lung tissue), lung damage, damage to the mouth, throat, and/or airways, coma

**Target Organs**

This material (or a component) has been shown to lower activity of certain immune system cells in experimental animals. The significance of this effect with respect to human health is uncertain.

**Carcinogenicity**

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

**Reproductive hazard**

Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

**Other information**

When combined with an acid or ammonia, hypochlorites may produce chlorine or chloramine gas, respectively. Inhalation of these gases results in coughing, choking, difficult breathing, and other symptoms of respiratory tract irritation. Fluid may collect in the lung tissue following a severe gas exposure.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Components | CAS-No. / Trade Secret No. | Concentration |
|---|---|---|
| SODIUM HYPOCHLORITE | 7681-52-9 | >=10-<15% |
| SODIUM HYDROXIDE | 1310-73-2 | >=1.5-<5% |

## 4. FIRST AID MEASURES

**Eyes**

If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention. Do not remove the victim from water access for transport to a medical facility unless instructed to do so by qualified medical personnel. If possible, continue flushing the eye gently with water while transporting the victim.

**Skin**

Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash clothing before reuse and discard contaminated shoes.

**Ingestion**

Seek immediate medical attention. Do not induce vomiting. Vomiting will cause further damage to the mouth and throat. If individual is conscious and alert, immediately rinse mouth with water and give milk or water to drink. If possible, do not leave individual unattended.

**Inhalation**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Notes to physician**

**Hazards**: No information available.
**Treatment**: No information available.

## 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**

Dry chemical, Carbon dioxide (CO2), Water spray

**Hazardous combustion products**

Chlorine, corrosive vapors, hydrogen chloride, Sodium oxides, toxic fumes

**Precautions for fire-fighting**

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

**NFPA Flammable and Combustible Liquids Classification**

Not applicable

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**Environmental precautions**

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

**Methods for cleaning up**

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

**Other information**

Comply with all applicable federal, state, and local regulations.

## 7. HANDLING AND STORAGE

**Handling**

When diluting liquid caustic solutions, slowly add the caustic solution to lukewarm water (80-100 degrees F, 27-38 degrees C) in order to prevent heat buildup that could result in injury due to boiling or spattering of the solution. Never start with cold or hot water. Never add water to caustic. Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

**Storage**

Store in a cool, dry, ventilated area. Keep from freezing.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

| SODIUM HYDROXIDE | | 1310-73-2 |
|---|---|---|
| CAD AB OEL | Ceiling Limit Value: | 2 mg/m3 |
| CAD BC OEL | Ceiling Limit Value: | 2 mg/m3 |
| CAD ON OEL | Ceiling Limit Value: | 2 mg/m3 |
| OEL (QUE) | Ceiling Limit Value: | 2 mg/m3 |
| CAD MB OEL | Ceiling Limit Value: | 2 mg/m3 |

**General advice**

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

**Exposure controls**

Mechanical ventilation systems used to ventilate corrosive storage or process areas must be designed with components that are corrosion resistant.

**Eye protection**

Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist. Maintain eye wash station in immediate work area.

**Skin and body protection**

Wear appropriate chemical impervious clothing and boots whenever there is potential for skin contact with product. Launder clothing before reuse. Maintain safety shower at all locations where skin contact could occur. Contact your local safety equipment supplier to assist the facility in determining proper selection of personal protective equipment for the applications/operations present at your facility.
Wear resistant gloves (consult your safety equipment supplier).
Discard gloves that show tears, pinholes, or signs of wear.

**Respiratory protection**

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical state** | liquid |
| **Colour** | yellow |
| **Odour** | slight chlorine |
| **Boiling point/boiling range** | 212 °F / 100 °C Calculated Phase Transition Liquid/Gas |
| **Melting point/range** | -11 °F / -24 °C |
| **pH** | 13.5 |
| **Flash point** | Not applicable |
| **Evaporation rate** | (>)1 Ethyl Ether |
| **Vapour pressure** | 23.330 hPa Calculated Vapor Pressure |
| **Density** | 1.192 g/cm3 @ 68 °F / 20 °C |
| | 9.93 lb/gal @ 60.00 °F / 15.56 °C |
| **Water solubility** | soluble |
| **Viscosity, dynamic** | 2.15 mPa.s @ 23 °C |

## 10. STABILITY AND REACTIVITY

**Stability**

Stable.

**Conditions to avoid**

Do not allow evaporation to dryness., Exposure to light., excessive heat, Exposure to sunlight., Exposure to moisture.

**Incompatible products**

Acids, Alcohols, Ammonia, Combustible material, ethers, halogenated hydrocarbons, Hydrocarbons, isocyanates, Metals, Organic materials, organic nitro compounds, oxidizable substances, Reducing agents, Strong oxidizing agents

**Hazardous decomposition products**

acid vapors, Chlorine, corrosive vapors, hydrogen chloride, Oxygen, Sodium oxides, toxic fumes

**Hazardous reactions**
Product will not undergo hazardous polymerization.

## 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Inhalation<br>Skin absorption<br>Skin contact<br>Eye Contact<br>Ingestion |

**Product**

| | | |
|---|---|---|
| Acute oral toxicity | : | No data available |
| Acute inhalation toxicity | : | No data available |
| Acute dermal toxicity | : | No data available |
| Skin corrosion/irritation | : | Result: Causes burns. |
| Serious eye damage/eye irritation | : | Result: Causes burns. |
| Respiratory or skin sensitisation | : | No data available |
| Target Organ Systemic Toxicant - Repeated exposure | : | Target Organs: This material (or a component) has been shown to lower activity of certain immune system cells in experimental animals. The significance of this effect with respect to human health is uncertain. |

**Components:**

**SODIUM HYPOCHLORITE:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD 50 Rat: > 5 g/kg |

**SODIUM HYDROXIDE:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD Lo Rabbit: 500 mg/kg |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
**Product:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC 50 (Lepomis macrochirus (Bluegill sunfish)): ca. 0.6 mg/l<br>Exposure time: 96 h<br>Test Method: static test<br><br>LC 50 (Oncorhynchus mykiss (rainbow trout)): 0.00283 mg/l<br>Exposure time: 6 h<br>Test Method: static test |
| Toxicity to daphnia and other aquatic invertebrates | : | LC 50 (Water flea (Daphnia magna)): ca. 1.0 mg/l<br>Exposure time: 48 h<br>Test Method: static test |

**Components:**

**SODIUM HYPOCHLORITE:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss)): 0.05 - 0.071 mg/l<br>Exposure time: 96 h<br>Method: Flow through<br>Mortality<br><br>LC 50 (Fathead minnow (Pimephales promelas)): 0.06 - 0.11 mg/l<br>Exposure time: 96 h<br>Method: Flow through<br>Mortality |
| Toxicity to daphnia and other aquatic invertebrates | : | LC 50 (Water flea (Daphnia magna)): 0.045 - 0.068 mg/l<br>Exposure time: 48 h<br>Method: Flow through<br>Mortality |
| M-Factor | : | 10 |

**SODIUM HYDROXIDE:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC 50 (Western mosquitofish (Gambusia affinis)): 125 mg/l<br>Exposure time: 96 h<br>Method: Static<br>Mortality |
| Toxicity to daphnia and other aquatic invertebrates | : | EC 50 (Water flea (Daphnia magna)): 34.59 - 47.13 mg/l<br>Exposure time: 48 h |

Intoxication

**Persistence and degradability**

**Product:**

No data available

**Components:**

No data available

**Bioaccumulative potential**

**Product:**

No data available

**Components:**

No data available

**Mobility in soil**

**Product:**

No data available

**Components:**

**SODIUM HYDROXIDE:**

Surface tension : 101.05 mN/m

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods**

Dispose of in accordance with all applicable local, state and federal regulations.

## 14. TRANSPORT INFORMATION

**REGULATION**

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|---|---|---|---|---|---|
| **U.S. DOT - ROAD** | | | | | |
| UN 1791 | Hypochlorite solutions | 8 | | III | |

**U.S. DOT - RAIL**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | Hypochlorite solutions | 8 | III |

**U.S. DOT - INLAND WATERWAYS**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | Hypochlorite solutions | 8 | III |

**TRANSPORT CANADA - ROAD**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | HYPOCHLORITE SOLUTION | 8 | III |

**TRANSPORT CANADA - RAIL**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | HYPOCHLORITE SOLUTION | 8 | III |

**TRANSPORT CANADA - INLAND WATERWAYS**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | HYPOCHLORITE SOLUTION | 8 | III |

**INTERNATIONAL MARITIME DANGEROUS GOODS**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | HYPOCHLORITE SOLUTION | 8 | III |

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | Hypochlorite solution | 8 | III |

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | Hypochlorite solution | 8 | III |

**MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES**

| | | | | |
|---|---|---|---|---|
| UN | 1791 | HIPOCLORITOS EN SOLUCION | 8 | III |

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

## 15. REGULATORY INFORMATION

**WHMIS Classification**

This product is subject to regulations under the Canadian Pest Control Products Act (P.C.P. Act). Therefore, this product is excluded from the supplier labeling and material safety data sheet requirements as specified in

Section 12 of the Hazardous Products Act.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**Canadian National Pollutant Release Inventory (NPRI)**Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

**Notification status**

| | |
|---|---|
| US. Toxic Substances Control Act | y (positive listing) |
| Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) | y (positive listing) |
| Australia. Industrial Chemical (Notification and Assessment) Act | y (positive listing) |
| Japan. Kashin-Hou Law List | y (positive listing) |
| Korea. Toxic Chemical Control Law (TCCL) List | y (positive listing) |
| Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act | y (positive listing) |
| China. Inventory of Existing Chemical Substances | y (positive listing) |

| | HMIS | NFPA |
|---|---|---|
| Health | 3 | 3 |
| Flammability | 0 | 0 |
| Physical hazards | 1 | |
| Instability | | 1 |
| Specific Hazard | -- | -- |

**Biocides**
17076 Solenis Canada ULC

## 16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by the Solenis Environmental Health and Safety Department.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System