



Solve 15 H

Safety Data Sheet

Date Issued: 6/16/2015

Date Revised: 6/16/2015

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Solve 15 H**

Product use: Industrial

Company Identification:

WaterSolve, LLC

5031 68th Street

Caledonia, Michigan 49316, USA www.gowatersolve.com

616-575-8693

For Product Information:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. HAZARDS IDENTIFICATION

GHS Ratings:

Corrosive to metals: 1

Corrosive to metals

Skin corrosive: 1A

Destruction of dermal tissue; Exposure < 3min. Observation < 1hour, visible necrosis in at least one animal.

Eye corrosive: 1

Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity>=3, Iritis >1.5

Organ toxin single exposure: 3

Transient target organ effects-Narcotic effects-Respiratory tract irritation

Organ toxin repeated exposure: 2

Presumed to be harmful to human health-Animal studies with significant and/or severe toxic effects relevant to humans at generally moderate exposure (Guidance)-Human evidence in exceptional cases.

Aquatic toxicity: A1

Acute toxicity <=1.00 mg/l

GHS Label element:

Hazard pictograms:



SIGNAL WORD:

DANGER

Hazard statement: **H290** **May be corrosive to metals**
 H314 **Causes severe skin burns and eye damage**
Hazard statements: **H318** **Causes serious eye damage**
 H336 **May cause drowsiness or dizziness**
 H373 **May causes damage to organs through prolonged or repeated exposure**
 H400 **Very toxic to aquatic life**

GHS Precaution Statements:

P 234 **Keep only in original container**
P260 **Do not breathe**
P261 **Avoid breathing dust/fume/gas/mist/vapors/spray**
P264 **Wash face, hands, and any exposed skin thoroughly after handling**
P271 **Use only outdoors or in a well-ventilated area**
P273 **Avoid release to the environment**
P280 **Wear protective gloves/protective clothing/eye protection/face protection**
P310 **Immediately call a POISON CENTER or doctor/physician**
P312 **Call a POISON CENTER or doctor/physician if you feel unwell**
P314 **Get Medical advice/attention if you feel unwell**
P321 **Specific treatment (see first aid treatment on SDS)**
P363 **Wash contaminated clothing before reuse**
P390 **Absorb spillage to prevent material damage**
P391 **Collect spillage**
P301+330+331 **IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.**
P303+353+361 **IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing**
P304+340 **IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing**
P305+351+338 **IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do-continue rinsing**
P307+311 **IF EXPOSED: Call a POISON CENTER or doctor/physician**
P405 **Store locked up**
P406 **Store in a corrosive resistant container with a resistant inner liner**
P403+233 **Store in a well ventilated place. Keep container tightly closed**
P501 **Dispose of contents/container in accordance with local/regional/national/international regulations**

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name/CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other exposure Limits
Sodium Hypochlorite/ 7681-52-9 10 to 20%			
Sodium Hydroxide/ 1310-73-2 50 percent	2 mg/m ³ TWA	2 mg/m ³ Ceiling	NIOSH: 2 mg/m ³ Ceiling

4. **FIRST AID MEASURES**

Inhalation: Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. To prevent aspiration, keep head below knees.

Ingestion: If swallowed, DO NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Get medical attention immediately. Never give anything by mouth to an unconscious person.

Skin Contact: Flush immediately with running water for at least 15 minutes, while removing contaminated clothing. Wash skin with soap and water. Get medical attention. Wash clothing separately and clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water. Flush eye with water for a minimum of 15 minutes, occasionally lifting lower and upper eyelids. Get medical attention promptly.

5. FIRE FIGHTING MEASURES

Lower: **Upper:**

Extinguishing Media: Regular dry chemical, carbon dioxide, water, or foam suitable for surrounding fire. For large fires, use regular foam or flood with fine water spray.

Specific Hazards Arising from the chemical: Negligible fire hazard. Oxidizer, this material will react with some metals and cause liberation of oxygen. May ignite or explode on contact with combustible materials. Toxic fumes can be liberated by contact with acid or heat.

Special Protective Equipment and Precautions for Firefighters:

Special information:

As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Do not touch spilled material. Stop leak if possible without personal risk. For small spills, collect spilled material in appropriate container for disposal and consider absorbing with sand or other noncombustible material (e.g. do not use sawdust or other combustible material). Be advised, however, that the use of absorbing material is creating hazardous waste and this absorbing material must now be disposed of properly. Collect spilled material in appropriate container for disposal.

7. HANDLING AND STORAGE

Handling Procedures

Use with adequate ventilation. Avoid breathing dust, mists, and vapors. Do not get in eyes, on skin, or on clothing. Wear eye protection and protective clothing. Wash thoroughly after handling.

Storage Requirements

Store in vented, closed containers that provide protection from direct sunlight. Keep separated from incompatible substances and do not store near acids, heat oxidizing material or organics. When handling, do not mix with other cleaning agents that may liberate chlorine gas vapors.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name/CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other exposure Limits
Sodium hypochlorite 7681-52-9			
Sodium Hydroxide/ 1310-73-2 50 percent	2 mg/m ³ TWA	2 mg/m ³ Ceiling	NIOSH: 2 mg/m ³ Ceiling

Engineering Controls

Provide ventilation sufficient to maintain exposure below the recommended limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.

SKIN PROTECTION: Wear imperious protective gloves. Wear protective gear as needed-apron, suit, boots.

EYE PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield.

OTHER PROTECTIVE EQUIPMENT: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

HYGENIC PRACTICES: Do not eat, drink, or smoke in areas where this material is used. Avoid breathing vapors. Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Wash hands before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical state:	liquid
Appearance:	light yellow-green liquid
Odor:	pungent chlorine-like
pH:	unknown
Melting point:	-20 to 30°F
Freezing point:	unknown
Boiling range:	230°F (110 °C)
Flammability:	unknown
Flash point:	unknown
Explosive properties:	unknown
Lower / upper limits:	No applicable
Vapor Pressure:	14.5 @ 20°C
Vapor density:	unknown
Density:	unknown
Evaporation Rate:	unknown
Solubility:	unknown
Partition coefficient (n-octanol/water)	unknown
Autoignition temperature:	unknown
Viscosity:	unknown
Decomposition temperature:	unknown
Grams VOC less water:	unknown

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal use, handling and storage.

Incompatible Materials:

Acid, metals, amines, combustible materials, reducing agents. Specific reactions with sodium Hypochlorite include the following:

ACIDS: Violent reaction

ALUMINUM: Corrosive action

AMINES: Form explosive chloramines

AMMONIA: Form explosive chloramines

AMMONIUM SALTS: May form explosive product

BENZYL CYANIDE (ACIDIFIED): explosive reaction

ETHYLENEIMINE: Forms explosive 1-chloroethleimine

FORMIC ACID: Explosive mixture

METHANOL: May form explosive compound

NITROGEN COMPOUNDS: forms explosive N-chloro compounds

ORGANIC AND COMBUSTIBLE MATERIALS: fire and explosion hazard

OXALIC ACID: intense reaction

REDUCING AGENTS: Fire and explosion hazard

ZINC: corrosive

Conditions to avoid: Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces. May ignite or explode on contact with combustible materials.

Hazardous Decomposition Products: Chlorine and hydrochloric Acid Vapors

Hazardous polymerization: Will not occur.

11. **TOXICOLOGICAL INFORMATION**

MIXTURE TOXICITY

Component toxicity

1310-73-2 sodium hydroxide Dermal LD50: 1,350 mg/kg (Rabbit)

Routes of Entry: inhalation, ingestion, skin contact, eye contact

Target organs

Eyes skin respiratory system

Effects of Overexposure

Acute effects:

Ingestion: Causes irritation of membranes of the mouth, throat, and stomach pain and possible ulceration.

Skin contact: Irritant, reddening of skin, skin damage.

Inhalation: Fumes from spills are very irritating to mucous membranes.

Eye contact: Extreme irritant, corrosive

Chronic effects

Eye: Can cause damage

Skin: Can cause damage, chemical burn.

Carcinogenicity

Not classified or listed by IARC, NTP or OSHA.

12. **ECOLOGICAL INFORMATION**

Component Ecotoxicity

Sodium hypochlorite: 96hr LC50 Pimephales promelas: 0.06-0.11mg/L (flow through)
96hr LC50 Pimephales promelas: 4.5-7.6mg/L (static)
96hr LC50 Lepomis macrochirus: 0.28-1 mg/L (flow through)
96hr LC50 Oncorhynchus mykiss: 0.03-<0.19 mg/L (semi-static)
96hr LC50 Oncorhynchus mykiss: 0.05-0.771 mg/L (flow through)
96hr LC50 Oncorhynchus mykiss: 0.18-0.22mg/L (static)
48hr EC50 Daphnia magna: 0.033-0.044 mg/L (static)

Sodium hydroxide 96 hr LC50 Oncorhynchus mykiss: 45.4 mg/L (static)

13. **DISPOSAL CONSIDERATIONS**

Dispose container and unused contents in accordance with federal, state and local requirements.

14. **TRANSPORT INFORMATION**

Refer to Bill of Lading or CONTAINER LABEL for DOT or other transportation hazard classification.

15. **REGULATORY INFORMATION**

CERCLA/SARA Hazardous Substances

1310-73-2 Sodium hydroxide

7681-52-9 Sodium hypochlorite

TSCA 8(b) Inventory

1310-73-2 Sodium hydroxide

7681-52-9 Sodium hypochlorite

NSF maximum use level: 84 mg/L

OTHER INFORMATION

The information provided in this Safety Data Sheet is accurate to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. Both the supplier and manufacturer make no representations and assume no liability for any direct, incidental or consequential damages resulting from its use. Both the supplier and manufacturer make no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This information is for the specific material described only and may not be valid if the material is used in combination with any other materials or in any process. The user is responsible to determine the completeness of the information and suitability for the user's own particular use. Users of any chemical should educate themselves on all aspects of its use by independent investigation of current scientific and medical knowledge that the material can be used safely. The buyer assumes all responsibility for using and handling the product in accordance with applicable federal, state and local regulations.

List of abbreviations and acronyms that could be, but not necessarily are, used in the safety data sheet:

ACGIH: American Conference of Industrial Hygienists
BEI: Biological Exposure Index
CAS Chemical: Abstracts Service (Division of the American Chemical Society)
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CMR: Carcinogenic, Mutagenic or Toxic for Reproduction
DOT: Department of Transportation
FG: Food grade
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
H-statement: Hazard Statement
HMIRC: Hazardous Materials Information Review Commission
HMIS: Hazardous Materials Identification System
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
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
OECD: Organization for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OSHA: Occupational Safety and Health Administration
P-Statement: Precautionary Statement
PBT: Persistent, Bioaccumulative and Toxic
PMRA: Health Canada Pest Management Regulatory Agency
PPE: Personal Protective Equipment
RTK: Right to Know
SDS: Safety Data Sheet
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
WHMIS: Workplace Hazardous Materials Information System