PCS² Inc.

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier

Product name: **Sodium Hypochlorite, 12.5%**

Type of product: Sodium Hypochlorite Solution

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses: Bleaching agent, water treatment, disinfectant, cleaning agent.

Uses advised against: None Known.

1.3 COMPANY IDENTIFICATION

Company

PCS² Inc.
PO Box 1073
Canonsburg, PA 15317

Telephone 412-889-3571

Fax

1.4 EMERGENCY Telephone NUMBER

24-hour emergency number: 800-424-9300 – CHEMTREC – CCN#634803

SECTION 2: HAZARD IDENTIFICATION

2.1 GHS Classification of the substance or mixture

Classification according to paragraph (d) of Regulation 29 CFR 1910.1200

Serious eye damage/eye irritation	Category 1
Skin corrosion/irritation	Category 1B
Corrosive to metals	Category 1

2.2 Label elements

Labeling according to paragraph (f) of Regulation 29 CFR 1910:1200

Hazard symbol(s):

Signal word: Danger

Hazard statement(s):

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage

Precautionary Statements

Response:

P301+P330+P331	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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 POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.

Prevention:

P260	Do not breathe dusts or mists.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/eye protection/face protection

Storage:

P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501	Disposal of contents/container in accordance with local, state, and federal regulations

2.3 Other hazards

None Known

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not Applicable. This product is not a substance.

3.2 Mixtures

Hazardous Components	*CAS Number*	*Weight %*
Sodium Hypochlorite	7681-52-9	10 - 13
Sodium Hydroxide	1310-73-2	< 4.5

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation:

Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact:

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician or poison control center if symptoms occur or irritation persists.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion:

Call a poison center or doctor/physician if you feel unwell. Rinse mouth with water. DO NOT induce vomiting. Get medical attention immediately if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. NOTE TO PHYSICIAN: May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done.
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

4.4 Other Information

None.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:
Use water fog, foam, carbon dioxide, dry powder, carbon dioxide. Use an extinguishing media appropriate for surrounding fire.

Unsuitable extinguisher media:
Do not use water jet as an extinguisher as this will spread fire. Dry chemical extinguishing agents may react with product; use with caution.

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products:
Chlorine compounds. During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.

5.3 Advice for fire fighters

Protective measures:
Wear self- contained breathing apparatus and protective suit.

5.4 Other information

For safety reasons in case of fire, containers should be stored separately in closed containments. Do not breathe fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURE

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions:
Do not touch or walk through spilled material. Keep combustible materials away from spill

Protective equipment:
Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

Emergency procedures:
Do not breathe mist or vapor. Ensure adequate ventilation.

6.2 Environmental precautions

As with all chemical products, do not flush into surface water.

6.3 Methods and material for containment and cleaning up

Small spills:
Eliminate all ignition sources. Keep combustibles away from spilled material. Ventilate the contaminated area. Absorb with earth, sand or vermiculite.

Large spills:
Eliminate all ignition sources. Keep combustibles away from spilled material. Ventilate the contaminated area. Stop the flow of material, if this is without risk. Use water mist to reduce vapors. Dike the spilled material, where possible. Absorb spillage using vermiculite, sand or earth. Shovel and put in suitable container for disposal.

Residues:
Absorb spillage using vermiculite, sand, or clay, sweep into appropriate container for disposal.

6.4 Reference to other sections
Section 7: Handling and storage; Section 8: Exposure controls/personal protection; Section 9: Physical and chemical properties; Section 13: Disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Do not breathe mist or vapor. Wash contaminated clothing before reuse. Keep container closed. Do not get in eyes, on skin, or on clothing. Avoid prolonged contact with eyes, s and clothing. Wear personal protective equipment. Use with adequate ventilation. Protect from direct exposure to sunlight. Use good general industrial hygiene practices for handling. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed. Store away from incompatible materials. See STABILITY AND REACTIVITY – section 10. Store under cover in a dry, clean, cool, well ventilated place away from sunlight. Store away from oxidizing materials. Store in original vented container.

7.3 Specific end use(s)
None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Occupational exposure limits on material as supplied:

Occupational exposure limits of hazardous components:

Components:	*CAS Number*	*OSHA PEL-TWA (ST) STEL (C) Ceiling*	*NIOSH REL-TWA (ST) STEL (C) Ceiling*	*ACGIH TLV-TWA (ST) STEL (C) Ceiling*
Sodium Hydroxide	1310-73-2	2 mg/m^3	2 mg/m^3 – (C)	2 mg/m^3 – (C)
Sodium Hypochlorite (2 mg/m^3/ 15 min – AIHA/WEEL)	7681-52-9	None Established	None Established	None Established

8.2 Exposure controls

Appropriate engineering controls:
Good general ventilation (typically 10 air changes per hour) should be use. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.

Personal Protective Equipment (PPE)

Eye/Face protection:
Safety glasses with side shields, goggles, or face shield.

Skin protection:
Chemical resistant clothes protecting arms, legs, and body.

Hand protection:
Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.

Additional advice:
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls:
Do not allow uncontrolled discharge of product into the environment. Do not flush into surface water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, straw yellow to greenish liquid
Odor	Pungent
Odor Threshold	No data available
pH	11.0 - 13.5
Melting point/freezing point	- 20 °C (-4 °F) - Literature.
Initial boiling point and boiling range	No data available.
Flash point	Not applicable.
Evaporation rate	No data available.
Flammability (solid, gas):	Not expected to form explosive dust-air mixtures.
Upper/lower flammability or explosive limits	No data available
Vapor pressure	12 mm Hg.
Vapor density	No data available
Relative density	1.09 – 1.21
Solubility(ies)	Completely miscible in water
Partition coefficient	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available.

9.2 Other information
None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Reacts violently with strong acids. May react with oxidizing and reducing agents. May be corrosive to metals. Contact with acids will produce toxic chlorine gas.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4 Conditions to avoid
Contact with incompatible materials. Do not mix with other chemicals. Avoid direct sunlight or ultraviolet sources. Excessive heat. Contact between acids and chlorates can cause generation of Chlorine gas.

10.5 Incompatible materials
Acids, metals, oxidizing, reducing agents.

10.6 Hazardous decomposition products

None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on the product as supplied:

Acute oral toxicity	LD_{50}, rat 805 mg/kg.
Acute dermal toxicity	LD_{50}, rabbit > 1000 mg/kg.
Acute inhalation toxicity	LC_{50}, rat, (dust/mist) > 10.5 mg/l.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory/skin sensitization	Not expected to experience sensitization .
Mutagenicity	This product is not expected to be mutagenic.
Carcinogenicity	This product is not expected to be carcinogenic.
Reproductive toxicity	This product is not expected to interfere with reproduction.
STOT-single exposure	Not classified.
STOT – repeated exposure	Not classified.
Aspiration hazard	No hazards resulting from material as supplied.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Information on the product as supplied:

Acute toxicity to fish	LC_{50}/Fathead minnow/96 hours = 0.22 – 0.62 mg/L Estimated
Acute toxicity to invertebrates	EC_{50}/Daphnia/48 hours = 0.035 mg/l
Acute toxicity to algae	EC_{50}/ (activated sludge): 28.7 mg/l
Chronic toxicity to fish	NOEC/ Tidewater silverfish/ 28 days = 0.04 mg/L
Chronic toxicity to invertebrates	No data available
Toxicity to microorganisms	No data available
Effects on terrestrial organisms	No data available
Sediment toxicity	No data available

12.2 Persistence and degradability

Degradation:	No data available
Hydrolysis:	No data available
Photolysis:	No data available.

12.3 Bio-accumulative potential

Information on the product as supplied:

No data available

Partition co-efficient (Log Pow):	Not applicable
Bio concentration factor (BCF):	< 100 or Log Pow < 3

12.4 Mobility in soil

Information on the product as supplied:	No data available

12.5 Other adverse effects

None Known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues / unused products:	Dispose of in accordance with local, state, and federal regulations.
Contaminated packaging:	Rinse empty containers with water and the use the rinse water to prepare working solution. Dispose in accordance with the local, state, and federal regulations.
Recycling:	The product and its packaging are not suitable for recycling.

SECTION 14: TRANSPORT INFORMANTION

Land transport (DOT)

UN Number	UN 1791
Proper Shipping Name	HYPOCHLORITE SOLUTIONS
Hazard Class	8
Packing Group	III
Marine Pollutant	YES* - Sodium Hypochlorite (* - By bulk - > 119 gallons)

Sea transport (IMDG)

UN Number	UN 1791
Proper Shipping Name	HYPOCHLORITE SOLUTIONS
Hazard Class	8
Packing Group	III
Marine Pollutant	YES - Sodium Hypochlorite

Air transport (IATA)

UN Number	UN 1791
Proper Shipping Name	HYPOCHLORITE SOLUTIONS
Hazard Class	8
Packing Group	III

SECTION 15: REGULATORY INFORMATION

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

Information on the product as supplied:

TSCA Chemical Substances Inventory:

All components of this product are either listed on the inventory or are exempt from listing.

US SARA Reporting Requirements:

Section 302/304: Extremely hazardous substance ;

Component(s)	***CASRN***	***302 TPQ (lbs)***	***304 RQ (lbs)***
None			

Section 311/312:

Corrosive to metal
Skin Corrosion or irritation
Serious eye damage or eye irritation

Section 313: - This material contains the following chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III.

Component(s)	***CASRN***
None	

CAA (112r)/ HAPS:

Component(s)	***CASRN***

None

CWA: This product contains the following substances regulated as pollutants pursuant to the CWA (40 CFR 122.21 and 40 CFR 122.42).

Component(s)	***CASRN***	***CWA RQ (lbs)***	***Product RQ (lbs)***	
Sodium Hypochlorite	*7681-52-9*	*100*	*770*	*Haz. Sub. 116.4A*
Sodium Hydroxide	*1310-73-2*	*1000*	*22,200*	*Haz. Sub. 116.4A*

CERCLA:

Component(s)	***CASRN***	***(RQ) (lbs)***	***Product RQ (lbs)***
Sodium Hypochlorite	*7681-52-9*	*100*	*770*
Sodium Hydroxide	*1310-73-2*	*1000*	*22,200*

Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	***CASRN***	
Sodium Hypochlorite	*7681-52-9*	*E*
Sodium Hydroxide	*1310-73-2*	*E*

California Proposition 65 Information:

WARNING: This product may contain the following chemical(s) known to the State of California to cause cancer, birth defects, or other reproductive harm:

Components	***CASRN***
None	

SECTION 16: OTHER INFORMATION

NFPA and HMIS Ratings:

NFPA:

Health	3
Fire Hazard	0
Reactivity	0

HMIS

Health	3
Flammability	0
Physical Hazard	0
PPE Code	**D**

This SDS was prepared in accordance with the following:
U.S. Code of Federal Regulations 29 CFR 1910.1200

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.