

PCS Oxidizing Laundry Detergent



Description:

Use as directed for Decontamination of Cleaning Cloths and Mops
 Contains stabilized sodium hypochlorite, sodium carbonate, sodium bicarbonate, sodium chloride and sodium hydroxide.

PCS Oxidizing Laundry detergent provides the oxidizing power needed to destroy and remove organic soils from cleaning cloths and mops. Microfibre cloths remove large numbers of pathogens from surfaces requiring thorough oxidation or very high disinfecting temperatures to remove organic soils from cloths and mops.

Directions for use.

- High efficiency washers
- Fill detergent cup and bleach dispenser with PCS Oxidizing Laundry Detergent.
- Set Program for Soak cycle, hot water wash and extra rinse
- Inspect and remove cloths not suitable for laundering
- Dry cloths to zero moisture.

Manual cleaning and decontaminating of cleaning cloths and mops.

- Rinse cloths and mops.
- Make up a solution of 16 ml / ½ ounce of PCS Oxidizing Laundry detergent per litre/ quart of water.
- Place cloths and mops in solution and allow soaking for at least 5 minutes.
- Rinse cloths and mops.
- Make up fresh solution of 16 ml / ½ ounce of PCS Oxidizing Laundry detergent per litre / quart of water.
- Place cloths and mops in solution and allow soaking for twenty minutes.
- Rinse cloths thoroughly.
- Drying of cloths and mops is very important to prevent cloth or mop recontamination.

Product Code:

6074-6 - 6 x 946 mL

6074-4 - 4 x 3.78 L

6074-18 • 18.5 L



SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier used on the label: PCS Oxidizing Laundry Detergent

Other means of Identification: 6074

Recommended use of the chemical and restrictions on use: For professional use only.

Manufacturer/Supplier:

Process Cleaning Solutions Ltd.

Address:

2060 Fisher Dr.
Peterborough, On K9J 8N4

Telephone: 705-740-2880

Fax: 705-745-1239

24 Hr. Emergency Tel. #: Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International)

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the chemical:

Eye Damage/Irritation 2A

Label elements:

Signal Word:

Warning

Hazard statement(s)

H319 Causes serious eye irritation

Precautionary statement(s)

P264	Wash exposed areas thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection/face protection
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P337+313	If eye irritation persists get medical advice/attention
P501	Dispose of contents/container in accordance with local regulation

Hazard pictogram(s)



Other hazards not otherwise classified: None Known

Unknown Acute Toxicity: 0 %

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name, Common Name & Synonyms:	CAS #	Concentration %
Sodium Hypochlorite	7681-52-9	1-5

*If no information is given this product contains no substances that at their given concentrations are considered to be hazardous to health.

** If the chemical name/CAS # is "proprietary" and/or the weight % is shown as a range, this information had been withheld as a trade secret.

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures:

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs get medical advice/attention. Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention

Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Not determined

Special hazards arising from the substance or mixture: None known

Flammability classification: Not flammable

Hazardous combustion products: Carbon oxides

Special protective equipment and precautions for firefighters:

Protective equipment for fire-fighters: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Methods and material for containment and cleaning up: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Ventilate the area. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures: In case of a transportation accident, contact Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International). If a spill/release in the US in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Use protective equipment recommended in section 8. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling.

Conditions for safe storage: Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of reach of children.

Incompatible materials: Acids, Ammonia. Do not mix with other chemicals or cleaners

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure controls:

Control parameters

Exposure Guidelines This product does not contain any ingredients with occupational exposure limits that are at concentrations below their cut-off values/concentrations and that contribute to the hazard classification of the product

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.
Skin and Body Protection No special protective equipment required.
Respiratory Protection No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, Straw Colored Liquid

Odor: Bleach

Odor threshold: No applicable information available

pH: 12-12.75

Melting/Freezing point: No applicable information available

Initial boiling point and boiling range: No applicable information available

Flash point: None to boiling

Flashpoint (Method): No applicable information available

Evaporation rate (BuAe = 1): Similar to water

Flammability (solid, gas): Not flammable

Lower flammable limit (% by vol.): Not Flammable

Upper flammable limit (% by vol.): Not Flammable

Vapor pressure: No applicable information available

Vapor density: No applicable information available

Relative density: ~1.0

Solubility in water: Soluble

Other solubility(ies): No applicable information available

Partition coefficient: No applicable information available

Auto ignition temperature: No applicable information available

Decomposition temperature: No applicable information available

Viscosity: Similar to water

Volatile organic Compounds (%VOC's): None

Other physical/chemical comments: No applicable information available

SECTION 10 - STABILITY AND REACTIVITY**Reactivity**

Reacts with ammonia or acids such as vinegar, rust removers, or toilet bowl cleaners to produce hazardous gases, such as chlorine and other chlorinated compounds.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing conditions.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Ammonia or acids such as vinegar, rust removers, or toilet bowl cleaners.

Hazardous decomposition products

None known based on information supplied.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Exposure to vapor or mist may irritate respiratory tract.

Eye Contact May cause irritation.

Skin Contact May cause slight irritation.

Ingestion Ingestion may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical name	CAS #	LD ₅₀ (Oral, rat)	LD ₅₀ (Dermal. Rabbit)	LC ₅₀ (4hr, Inhal., rat)
Sodium Hypochlorite	7681-52-9	8200	>10000	

Information on toxicological effect

Symptoms Liquid may cause redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization to material: No information available

Mutagenicity: No information available

Carcinogenicity: The below table indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Sodium Hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 – Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available

STOT – single exposure No information available

STOT – repeated exposure	No information available
Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	Respiratory system, eyes, skin, gastrointestinal tract (GI)

Aspiration Hazard No information available

Numerical measures of toxicity – Product Information

The following values are calculated based on chapter 3.1 of the GHS document

No information available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No applicable information available.

Persistence and degradability: No applicable information available

Bioaccumulation potential: No applicable information available.

Mobility in soil: No applicable information available.

Other Adverse Environmental effects: No applicable information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods

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

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

US 49 CFR/DOT information:

UN No.: Not Regulated

UN Proper Shipping Name: Not Regulated

Transport Hazard Class(es): Not Regulated

Packing Group: Not Regulated

Special Transportation Notes: None

SECTION 15 - REGULATORY INFORMATION

Chemical Inventories

TSCA All components of his product are either on the TSCA 8(b) Inventory or otherwise exempt from listing

DSL/NDSL All components are on the DSL or NDSL.

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactivity Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants	CWA – Hazardous Substances
Sodium Hypochlorite 7681-52-9	100 lb			X
Sodium Hydroxide 1310-73-2	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQ's	Extremely Hazardous Substances RQs	RQ
Sodium Hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium Hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Causes moderate eye irritation. Avoid contact with eyes clothing. Wash thoroughly with soap and water after handling.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium Hypochlorite 7681-52-9	X	X	X	X	
Sodium Hydroxide 1310-73-2	X	X	X	X	

International Regulations

Canada

WHMIS Hazard Class

Non-controlled

SECTION 16 - OTHER INFORMATION

NFPA Health Hazard 1 Flammability 0 Instability 0 Physical and Chemical Hazards –

HMS Health Hazard 1 Flammability 0 Physical Hazard 0 Personal Protection -

Legend:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CSA: Canadian Standards Association

DOT: Department of Transportation

ECOTOX: U.S. EPA Ecotoxicology Database

EINECS: European Inventory of Existing Commercial chemical Substances

EPA: Environmental Protection Agency

HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer

IUCLID: International Uniform Chemical Information Database

LC: Lethal Concentration

LD: Lethal Dose

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OECD: Organization for Economic Co operation and Development

OSHA: Occupational Safety and Health Administration

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RTECS: Registry of Toxic Effects of Chemical Substances

SARA: Superfund Amendments and Reauthorization Act

SDS: Safety Data Sheet Material Safety Data Sheet

STEL: Short Term Exposure Limit

TOG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values

TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

Prepared By: Charlotte Technical Services Group

Tel: (705) 740 2880

DISCLAIMER

Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of this supplier, it is assumed that users of this material have been fully trained accordingly to the mandatory requirements of GHS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of, or reliance on, any information contained within this form.

END OF DOCUMENT

STUDY TITLE

Assessment of the Laundry Process for the Microbial Decontamination of Microfiber Cloths

TEST ORGANISMS

Clostridium difficile spores (ATCC 43598), *Staphylococcus aureus* (ATCC 6538) and *Serratia marcescens* (ATCC 13880)

TEST SAMPLE IDENTITY

PCS Oxidizing Laundry Detergent

TEST Method

Quantitative carrier test – Tier 3 or QCT-3

AUTHOR

Dr. Syed A. Sattar
Study Director

STUDY COMPLETION DATE

Nov. 14, 2018

PERFORMING LABORATORY

CREM Co. Labs. Units 1-2, 3403 American Dr., Mississauga, Ontario, Canada L4V 1T4

SPONSOR

Process Cleaning Solutions

STUDY NUMBER

PCS181024-02

STUDY REPORT

Proper laundering plays an important role in the recycling of fabrics to be used in the routine manual cleaning of hard, non-porous environmental surfaces in healthcare and other settings. Ineffectively laundered fabrics may mediate the spread of pathogens over surfaces during the wiping process. . Therefore, the importance of the laundry process in infection prevention and control requires due attention. Here, CREM Co Labs report a preliminary assessment of such a manual laundry process using an Oxidizing Laundry Detergent.

A QCT-3 platform (30 X 60 X 0.9 cm) with nine contaminated metallic disk carriers (1 cm diameter) was used for contaminating a microfiber cloth by wiping. A mixture of *C. difficile* spores (ATCC # 43598), *Staphylococcus aureus* (ATCC 6538) and *Serratia marcescens* (ATCC 13880) were used as the challenge. To prepare the microbial mixture for inoculation, equal volumes of each culture were mixed directly with the soil load (mixture of bovine mucin, yeast extract and bovine serum albumin). Three disks were considered for control to measure the initial microbial titer on each disk. Each metal disk on the platform was contaminated with 10 μ L of the test inoculum with a soil load (ASTM protocol E2197) and left to dry (contaminated platform) under an operating biosafety cabinet (BSC) for 120 \pm 10 minutes.

The cleaning process was performed as instructed by the Sponsor with spraying the platform with a disinfectant (PCS 200) and wiping the surface of the platform using a dry microfiber cloth. The contaminated cloth was then manually laundered as instructed on the PCS Oxidizing Laundry Detergent.

The total initial level of contamination on the platform was 44,200 CFU/cm² (35,000 CFU of the two vegetative bacteria and 9,240 CFU of *C. difficile*). After the wiping, no CFU of the vegetative bacteria were detected while the number of viable spores was just 8.15 CFU/cm² on the platform. This indicated that that all the vegetative bacteria were either killed or sequestered in the microfiber cloth and most of *C. difficile* spores picked up and retained in the cloth; the spores were most likely not killed because of the relatively low level of the disinfectant in the tested formulation.

The contaminated cloth was washed and laundered as instructed on the PCS Oxidizing Laundry Detergent. 48 ml of PCS Oxidizing Laundry Detergent was mixed with 3 Liter of tap water in a container. Microfiber cloth was placed into the solution for 5 minutes. The cloth was rinsed with tap water. Another container of solution was prepared similarly (48 mL of detergent in 3 L tap water). The microfiber cloth was placed in the container for 20 minutes. The cloth was rinsed with tap water and dried overnight under ambient conditions. The day after, a platform with 9 clean disks was used to assess any transfer of contamination from laundered microfiber cloth. The platform was wiped once (back and forth). All 9 disks on the platform were then retrieved and assessed for contamination by membrane filtration of the eluate. The membrane was placed on a culture plate with the brain heart infusion agar and incubated 36 \pm 1°C for five days hrs.

After 5 days of incubation, no contamination was observed on the culture plate, suggesting the absence of any viable spores on the laundered cloth.

This study was a preliminary test to assess the PCS laundry process, a more comprehensive study can be performed to validate the results and address some concerns about the testing

Results

A) Vegetative Bacteria (*S. aureus* and *S. marcescens*)

Table 1 shows the total vegetative cells before and after cleaning process on the contaminated platform

(CFU/cm ²)	
Control	Contaminated
35,000	0

B) *C. difficile* spores

Table 2: The result of *C. difficile* before and after cleaning process on the contaminated platform

(CFU/cm ²)	
Control	Contaminated
9,240	8.15

C) The total of three types of microorganisms

Table 3: The result of total colony forming units before and after cleaning process on the contaminated platform

(CFU/cm ²)	
Control	Contaminated
44,200	8.15

D) Microorganisms transferred on the platform from laundered microfiber cloth

Table 4: The result of total colony forming transferred into the platform from laundered microfiber cloth

(CFU/cm ²)	
<i>C. difficile</i> spores	0
Vegetative Bacteria (<i>S. aureus</i> and <i>S. marcescens</i>)	0

APPENDIX

Result of Assessing the PCS laundry process of microfiber cloth using QCT-3 platform exposure to mixture of *C. difficile* (spores), *S. aureus* and *S. marcescens*

Table 5: Spraying PCS 200 and wiping Test 2, Vegetative bacteria, *S. aureus* and *S. marcescens*, second test

Dilution	C1	CBL	CBR	CM	CUL	CUR	C2	C3
10 ⁰	-	0	0	0	0	0	-	-
10 ⁻¹	-	0	0	0	0	0	-	-
10 ⁻²	-	-	-	-	-	-	-	-
10 ⁻³	-	-	-	-	-	-	-	-
10 ⁻⁴	TNTC	-	-	-	-	-	TNTC	TNTC
10 ⁻⁵	56	-	-	-	-	-	48	43
10 ⁻⁶	8	-	-	-	-	-	11	8

Table 6: Spraying PCS 200 and wiping Test 2, *C. difficile*, second test

Dilution	C1	CBL	CBR	CM	CUL	CUR	C2	C3
10 ⁰	-	1	0	29	2	0	-	-
10 ⁻¹	-	0	0	0	0	0	-	-
10 ⁻²	-	-	-	-	-	-	-	-
10 ⁻³	-	-	-	-	-	-	-	-
10 ⁻⁴	TNTC	-	-	-	-	-	TNTC	TNTC
10 ⁻⁵	15	-	-	-	-	-	13	12
10 ⁻⁶	3	-	-	-	-	-	3	1

Table 6: Transferred vegetative bacteria into the contaminated by laundered microfiber cloth

Dilution	CBL	CUL	CML	CBR	CUR	CMR	CBM	CMM	CUM
10 ⁰	0	0	0	0	0	0	0	0	0

Table 7: Transferred *C. difficile* spores into the contaminated platform by laundered microfiber cloth

Dilution	CBL	CUL	CML	CBR	CUR	CMR	CBM	CMM	CUM
10 ⁰	0	0	0	0	0	0	0	0	0

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier used on the label: PCS Oxidizing Laundry Detergent

Other means of Identification: 6074

Recommended use of the chemical and restrictions on use: For professional use only.

Manufacturer/Supplier:

Process Cleaning Solutions Ltd.

Address:

2060 Fisher Dr.
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Telephone: 705-740-2880

Fax: 705-745-1239

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Classification of the chemical:

Eye Damage/Irritation 2A

Label elements:

Signal Word:

Warning

Hazard statement(s)

H319 Causes serious eye irritation

Precautionary statement(s)

P264	Wash exposed areas thoroughly after handling
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P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P337+313	If eye irritation persists get medical advice/attention
P501	Dispose of contents/container in accordance with local regulation

Hazard pictogram(s)



Other hazards not otherwise classified: None Known

Unknown Acute Toxicity: 0 %

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name, Common Name & Synonyms:	CAS #	Concentration %
Sodium Hypochlorite	7681-52-9	1-5

*If no information is given this product contains no substances that at their given concentrations are considered to be hazardous to health.

** If the chemical name/CAS # is "proprietary" and/or the weight % is shown as a range, this information had been withheld as a trade secret.

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures:

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs get medical advice/attention. Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention

Most Important symptoms and effects, both acute and delayed: Causes severe eye irritation

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Not determined

Special hazards arising from the substance or mixture: None known

Flammability classification: Not flammable

Hazardous combustion products: Carbon oxides

Special protective equipment and precautions for firefighters:

Protective equipment for fire-fighters: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Methods and material for containment and cleaning up: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Ventilate the area. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

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Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Use protective equipment recommended in section 8. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling.

Conditions for safe storage: Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of reach of children.

Incompatible materials: Acids, Ammonia. Do not mix with other chemicals or cleaners

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure controls:

Control parameters

Exposure Guidelines This product does not contain any ingredients with occupational exposure limits that are at concentrations below their cut-off values/concentrations and that contribute to the hazard classification of the product

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.
Skin and Body Protection No special protective equipment required.
Respiratory Protection No protective equipment is needed under normal use conditions. If irritation is experienced, ventilation and evacuation may be required

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, Straw Colored Liquid

Odor: Bleach

Odor threshold: No applicable information available

pH: 12-12.75

Melting/Freezing point: No applicable information available

Initial boiling point and boiling range: No applicable information available

Flash point: None to boiling

Flashpoint (Method): No applicable information available

Evaporation rate (BuAe = 1): Similar to water

Flammability (solid, gas): Not flammable

Lower flammable limit (% by vol.): Not Flammable

Upper flammable limit (% by vol.): Not Flammable

Vapor pressure: No applicable information available

Vapor density: No applicable information available

Relative density: ~1.0

Solubility in water: Soluble

Other solubility(ies): No applicable information available

Partition coefficient: No applicable information available

Auto ignition temperature: No applicable information available

Decomposition temperature: No applicable information available

Viscosity: Similar to water

Volatile organic Compounds (%VOC's): None

Other physical/chemical comments: No applicable information available

SECTION 10 - STABILITY AND REACTIVITY**Reactivity**

Reacts with ammonia or acids such as vinegar, rust removers, or toilet bowl cleaners to produce hazardous gases, such as chlorine and other chlorinated compounds.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing conditions.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Ammonia or acids such as vinegar, rust removers, or toilet bowl cleaners.

Hazardous decomposition products

None known based on information supplied.

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Information on likely routes of exposure

Product Information

Inhalation Exposure to vapor or mist may irritate respiratory tract.

Eye Contact May cause irritation.

Skin Contact May cause slight irritation.

Ingestion Ingestion may cause slight irritation to mucous membranes and gastrointestinal tract.

Component Information

Chemical name	CAS #	LD ₅₀ (Oral, rat)	LD ₅₀ (Dermal. Rabbit)	LC ₅₀ (4hr, Inhal., rat)
Sodium Hypochlorite	7681-52-9	8200	>10000	

Information on toxicological effect

Symptoms Liquid may cause redness and tearing of eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization to material: No information available

Mutagenicity: No information available

Carcinogenicity: The below table indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Sodium Hypochlorite 7681-52-9	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 – Not Classifiable as to Carcinogenicity in Humans

Reproductive Toxicity No information available

STOT – single exposure No information available

STOT – repeated exposure	No information available
Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	Respiratory system, eyes, skin, gastrointestinal tract (GI)

Aspiration Hazard No information available

Numerical measures of toxicity – Product Information

The following values are calculated based on chapter 3.1 of the GHS document

No information available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No applicable information available.

Persistence and degradability: No applicable information available

Bioaccumulation potential: No applicable information available.

Mobility in soil: No applicable information available.

Other Adverse Environmental effects: No applicable information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods

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

Contaminated Packaging

Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

US 49 CFR/DOT information:

UN No.: Not Regulated

UN Proper Shipping Name: Not Regulated

Transport Hazard Class(es): Not Regulated

Packing Group: Not Regulated

Special Transportation Notes: None

SECTION 15 - REGULATORY INFORMATION

Chemical Inventories

TSCA All components of his product are either on the TSCA 8(b) Inventory or otherwise exempt from listing

DSL/NDSL All components are on the DSL or NDSL.

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactivity Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants	CWA – Hazardous Substances
Sodium Hypochlorite 7681-52-9	100 lb			X
Sodium Hydroxide 1310-73-2	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQ's	Extremely Hazardous Substances RQs	RQ
Sodium Hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Sodium Hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Causes moderate eye irritation. Avoid contact with eyes clothing. Wash thoroughly with soap and water after handling.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium Hypochlorite 7681-52-9	X	X	X	X	
Sodium Hydroxide 1310-73-2	X	X	X	X	

International Regulations

Canada

WHMIS Hazard Class

Non-controlled

SECTION 16 - OTHER INFORMATION

NFPA Health Hazard 1 Flammability 0 Instability 0 Physical and Chemical Hazards –

HMS Health Hazard 1 Flammability 0 Physical Hazard 0 Personal Protection -

Legend:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Services

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

CFR: Code of Federal Regulations

CSA: Canadian Standards Association

DOT: Department of Transportation

ECOTOX: U.S. EPA Ecotoxicology Database

EINECS: European Inventory of Existing Commercial chemical Substances

EPA: Environmental Protection Agency

HSDB: Hazardous Substances Data Bank

IARC: International Agency for Research on Cancer

IUCLID: International Uniform Chemical Information Database

LC: Lethal Concentration

LD: Lethal Dose

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OECD: Organization for Economic Co operation and Development

OSHA: Occupational Safety and Health Administration

PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act

RTECS: Registry of Toxic Effects of Chemical Substances

SARA: Superfund Amendments and Reauthorization Act

SDS: Safety Data Sheet Material Safety Data Sheet

STEL: Short Term Exposure Limit

TOG: Canadian Transportation of Dangerous Goods Act & Regulations

TLV: Threshold Limit Values

TWA: Time Weighted Average

WHMIS: Workplace Hazardous Materials Identification System

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DISCLAIMER

Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of this supplier, it is assumed that users of this material have been fully trained accordingly to the mandatory requirements of GHS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of, or reliance on, any information contained within this form.

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