SAFETY DATA SHEET

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING.

TRADE NAMES (AS LABELED): **SODIUM HYPOCHLORITE (5%, 5.25% ,10%, 12% 13.5%, 14.5%, 15% 17%, 12.5% GAC, 13.5% GAC)**

SYNONYMS: BLEACH, SODA BLEACH LIQUOR**,** CHLORINE BLEACH, SODIUM OXY CHLORIDE, HYPOCHLOROUS ACID SODIUM SALT, BIOSPERSE 3001, BIRKO-10-CHLOR, DREW 6110 COREREACTANT, EXTRACT 2.

EPA REGISTRATION NUMBERS: SODIUM HYPOCHLORITE 12.5% (148-1288)
SODIUM HYPOCHLORITE 10.0% (148-628)

CHEMICAL FAMILY: Bleaching Agents, Oxidizers
CHEMICAL FORMULA: Na O Cl
CAS NUMBER: 7681-52-9
MSDS SHEET NUMBER: **001767 / Version 10**

SUPPLIERS NAME: **Harcros Chemicals, Inc.**
ADDRESS: 5200 Speaker Road
Kansas City, KS 66106-1095
BUSINESS PHONE: (913) 321-3131
EMERGENCY PHONE: (800) 424-9300 (**CHEMTREC**)
VALIDATION DATE: 06-OCT-2010

INTERNATIONAL INVENTORY STATUS:
Canada (DSL): Listed
Europe (NLP): Listed
Australia (AICS): Listed
Japan (MITI/IENCS): Listed
China (CIS): Listed

Section 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Appearance: Colorless to lightly colored yellow Liquid
Odor: Characteristic Bleach odor
Signal Word: Danger!

Precautions:
Wear protective equipment when handling. Use only with adequate ventilation. Wash thoroughly after handling. Do not get in eyes or skin. Do not breathe vapor, mist, or dust. Avoid prolonged or repeated contact with skin. Do not swallow.
Routes of Entry: Eye Contact, Skin Contact, Inhalation

Potential acute and chronic health effects:
HAZARD STATEMENTS: Potential Health Effects (ACUTE AND CHRONIC):
OVEREXPOSURE MAY CAUSE DAMAGE TO,
DISORDERS OF, OR ADVERSELY AFFECT THE FOLLOWING SYSTEMS, FUNCTIONS, ORGANS:
Skin, Eyes, Respiratory System, Destruction of body tissues.

CARCINOGENICITY: No components, present in excess of 0.1% by weight are listed as carcinogens by IARC, NTP, or OSHA.

Section 2. HAZARDS IDENTIFICATION Continued.

Eyes Eye contact with product may cause severe irritation, burns, eye damage, or blindness.

Inhalation Inhalation may cause severe irritation, coughing or sneezing.
Prolonged or repeated overexposure by inhalation may cause pneumonia, lung damage, Damage to respiratory system, or even death.

Ingestion Ingestion may cause severe irritation, tissue ulceration, gastrointestinal damage, Circulatory collapse, convulsions, coma, or even death

Skin Skin contact may cause irritation, burns
Prolonged or repeated skin contact may cause burns, skin damage. May be absorbed in harmful amounts.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	CAS NUMBER	MAX Percentage%	EXPOSURE LIMIT TWA/TLV ppm	STEL ppm	CEIL ppm	AGENT
Sodium Hypochlorite	7681-52-9	20.00	(As chlorine) 0.50	1.00		OSHA/ACGIH
Caustic Soda Sodium Hydroxide	1310-73-2	3.00	(As sodium hydroxide)			OSHA/ACGIH

Section 4. FIRST AID MEASURES

EYE CONTACT:
Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Call a physician.

SKIN CONTACT:
Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse. Call a physician.

INHALATION:
Remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Call a physician.

INGESTION:
If swallowed, DO NOT induce vomiting. Rinse mouth with water. Dilute stomach contents by drinking water. If vomiting occurs spontaneously, keep head below hips to prevent breathing vomit into lungs. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Call a physician immediately.

Section 5. FIRE-FIGHTING MEASURES

Flash Point (METHOD):	N/A
Auto-Ignition	Not Available
Flammable Limits	Not Available
Extinguishing Media	Water
Special Fire Fighting Procedures	Move product from fire area if it can be done safely. Evacuate non-essential personnel. Firefighters should wear full face, self-contained apparatus and impervious protective clothing.
Unusual fire and Explosion Hazards	Product does not burn, but can provide oxygen, which can intensify a fire. Toxic fumes may be released. Product is an oxidizer. It may react vigorously with organics or other materials resulting in an explosion and fire.

Section 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions
Evacuate non-essential personnel, eliminate ignition sources, and wear protective equipment (See Section VIII). Shut off source of leak only if safe to do so. Wear respiratory equipment if exposure limits are exceeded.

Contain spill
Recover free product. To clean up residue, reduce by adding reducing agents such as bisulfites or ferrous salt solutions. Some heat will be produced. May be neutralized with reducing agents. Keep on alkaline side and dilute with copious quantities of water. Principal end product is salt water (NaCl). Product may be toxic to fish or aquatic life.

Disposal Method
Solids must be disposed of in a permitted waste management facility. Recovered liquids may be reprocessed or incinerated. Incineration must be handled in a permitted facility. Dispose of material in accordance with all Federal, State and local regulations. Local regulations may be more stringent than Federal or State.

Section 7. HANDLING AND STORAGE

Handling
Wear protective equipment when handling. Use only with adequate ventilation. Wash thoroughly after handling. Do not get in eyes or skin. Do not breathe vapor, or mist. Avoid prolonged or repeated contact with skin. Do not swallow. Do not apply heat to container. ATTENTION: This container considered hazardous when emptied. Since emptied container contains product residues (vapor or liquid), all labeled hazard precautions must be observed.

Storage
For Industrial use only. Keep container closed when not in use. Store in a cool dry place. Store out of direct sunlight and away from heat. Decomposition can cause pressure-buildup in closed containers. Relieve internal pressure when received and at least weekly thereafter by slowly loosening bung. Retighten immediately. Wear protective equipment. Keep out of reach of children.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Mechanical: General ventilation is usually adequate.
Mechanical ventilation may be required to maintain exposure levels below limits.

RESPIRATORY PROTECTION: If exposure limits are exceeded, or if exposure may occur, use a NIOSH/MSHA respirator approved for your conditions of exposure. Refer to the most recent NIOSH publications concerning chemical hazards, or consult your safety equipment supplier. Respiratory protection programs must be in compliance with OSHA requirements in 29 CFR 1910.134. For emergencies, a NIOSH/MSHA approved positive pressure-breathing apparatus should be readily available.

EYE PROTECTION: Chemical goggles, Safety glasses with non-perforated side shield. Always wear eye protection when working with chemicals. Do Not wear contact lenses when working with chemicals.

SKIN PROTECTION: Impervious gloves. Clean protective body covering, rubber apron.

OTHER PROTECTIVE EQUIPMENT:
Safety shower, eye wash fountain, and washing facilities should be readily available.

WORK HYGIENIC PRACTICES: Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take First Aid action shown in Section IV. Launder contaminated clothing before reuse.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless To Lightly Colored yellow Liquid
Odor:	Characteristic Bleach odor
pH:	12.00 to 14.00
Boiling point/boiling range:	$\geq$ 230^0 deg. F
Freezing Point:	~ -3.0% (12.5% NaOCl)
Flash Point:	N/A
Vapor Pressure: (MM HG.):	12 @ 68^0 deg. F (12.5% NaOCl)
Vapor Density: (Air =1):	N/D
Solubility In Water:	Soluble
Specific Gravity:(H2O=1):	1.300 @ 68^0 deg. F
Evaporation Rate: (N-Butyl Acetate =1):	N/D
Percent Volatile by Volume:	N/D

Section 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable when stored in container under proper conditions. (May decompose upon heating And exposure to sunlight.)

MATERIALS TO AVOID: Amphoteric metals, inorganic acids, organic acids, organic bases, hydrocarbons, organic mixtures. Avoid contact with amphoteric metals which include aluminum, copper, zinc, and brass. Avoid contact with strong reducing agents which include hydrogen, hydrazine, sulfides, sulfites, and nitrites. Product is an oxidizer. It may react vigorously with organics or other materials resulting in an explosion and fire.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Hydrogen Chloride, Chlorine, Oxygen.

Section 11. TOXICOLOGICAL INFORMATION

Toxicity Data:
LD50 oral 8200 mg/kg Rat
LD50 dermal 10000 mg/kg Rabbit

Section 12. ECOLOGICAL INFORMATION

Freshwater Fish Toxicity:
LC50 Clupea harengus 0.033 – 0.097 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Cymatogaster aggregata 0.045 – 0.098 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Gasterosteus Aculeatus 0.041 – 0.193 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Oncorhynchus Gorbuscha 0.023 – 0.052 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Oncorhynchus Kisutch 0.026 – 0.038 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Parophyrs Vetulus 0.044 – 0.144 mg/l 96 hr, flow through bioassay (pH: 8)
LC50 Pimephales Promelas 0.22 – 0.62mg/l 96 hr, flow through bioassay (pH: 7)

Invertebrate Toxicity:
EC50 Ceriodaphnia sp. 0.006 mg/l 24 hr.
EC50 Daphnia Magnia 0.07 – 0.7 mg/l 24 hr.
EC50 Daphnia Magnia 2.10 mg/l 96 hr.
EC50 Gammarus Fasciatus 4.0 mg/l 96 hr.
EC50 nitocra Spinipes Fasciatus 40.0 mg/l 96 hr.
EC50 nitocra Spinipes Fasciatus 40.0 mg/l 96 hr.

Other Toxicity:
ErC50 dunaliella sp. 0.6 mg/l 24 hr.
ErC50 dunaliella tertiolecta 0.11 mg/l 24 hr.
ErC50 Skeletonema costatum 0.095 mg/l 24 hr.

Fate and Transport:
Biodegradation: This material is inorganic and not subject to biodegrading.
Persistence: This material is believed not to persist in the environment.
Bioconcentration: This material is not expected to bioconcentrate in organisms.

Section 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Follow applicable local, state, and federal regulations.

Section 14. TRANSPORT INFORMATION

DOT (Department of Transportation)
Proper Shipping Name: Hypochlorite Solutions
Hazard Class: 8
UN/NA Number: UN1791
Packaging Group: III
Label Requirements: Corrosive

Section 15. REGULATORY INFORMATION

UNITED STATES
HCS CLASSIFICATION:

Section 15. REGULATORY INFORMATION Continued.

HMIS
HEALTH: 3 FLAMMABILITY 0 PHYSICAL HAZARDS 2 PPE D
NFPA
HEALTH: 2 FLAMMABILITY 0 REACTIVITY 2 OTHER

S.A.R.A. Information
HAZARDS: Acute, Reactive
PHYSICAL DATA: Mixture, Liquid

EPCRA APPLIES:
312: Y
313: N

MAXIMUM USE LEVEL IN POTABLE WATER: Sodium hypochlorite 10% 105 mg/L
Sodium Hypochlorite 12.5% 84 mg/L

CERCLA REPORTABLE QUANTITY: Contains Sodium Hypochlorite with an RQ of 100 lbs.

Clean Air Act: Not Listed
State Regulations: Delaware Air Quality Management. DRQ: 100
CAS# 7681-52-9 Massachusetts Hazardous Substance code F8
Minnesota Hazardous Substance Code F8
New York List of Hazardous Substances RQ Air: 100; RQ Land: 100

CAS# 1310-73-2 Delaware Air Quality Management DRQ: 1000
Florida Toxic Substance: Listed
Massachusetts Hazardous Substance code 2, 4, F8, F9
Minnesota Hazardous Substance Code ANO
New York List of Hazardous Substances RQ Air: 1000; RQ Land: 100
Pennsylvania Hazardous Substance code E

TSCA INVENTORY STATUS: Listed
TSCA, 40 CFR 710: Sources of the raw materials used in this mixture assure that all chemical ingredients present are in compliance with Section 8(b) Chemical Substance Inventory, or are otherwise in compliance with TSCA.

WHMIS Classification: C Oxidizing Material; E Corrosive Material; F Dangerously Reactive Material

REACH Classification: C; R31 – 34
R31: Contact with acids liberates toxic gas.
R34: Causes burns.
S1/2: Keep locked up and out of reach of children.
S26: In case of contact with eyes, rinse immediately with plenty of water and seed medical advice.
S28: After contact with skin, wash immediately with plenty of water.
S37/39: Wear suitable gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice and immediately show the label where possible.
S61: Avoid release to the environment, Refer to special instructions/Safety Data.

GHS
CLASSIFICATION

FLAMMABLE LIQUIDS	Category: None
SERIOUS EYE DAMAGE	Category: 1
SKIN CORROSION/IRRITATION:	Category 1
ASPIRATION HAZARD	Category: 1
SPECIFIC TARGET TOXICITY:	Category: 2

SIGNAL WORD DANGER!

Section 16. OTHER INFORMATION

The information provided in this Material Safety data sheet has been obtained from sources believed to be reliable. Harcros Chemicals Inc provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. Harcros Chemicals Inc knows of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.

End of MSDS