1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

California Soda Company
355 Mandela Parkway
Oakland, CA 94607

Contact: California Soda Company
Phone: +1-510-444-6217

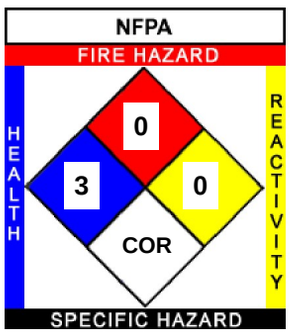
Product Name: JO Liquid Circ Cleaner
Revision Date: 2/28/2015
Version: 1
SDS Number: 162
Common Name: Strong Chlorinated Alkaline Cleaner
CAS Number: MIXTURE
Chemical Family: Strong Chlorinated Alkaline Cleaner
Chemical Formula: *** PROPRIETARY ***
Synonyms: JO Circ Clean

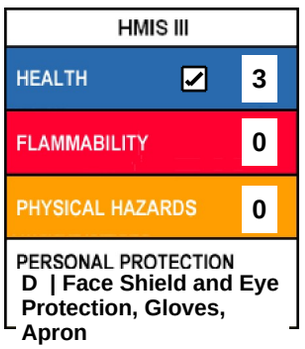
Emergency Phone: +1-800-424-9300 (CHEMTREC)

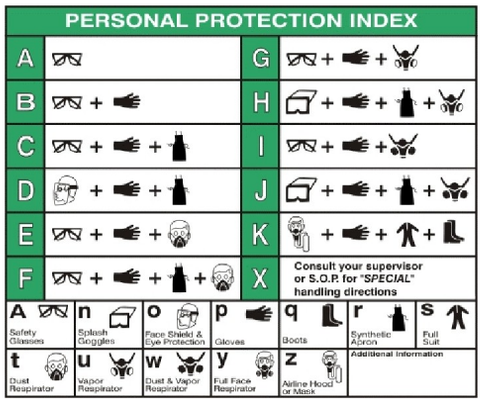
2 HAZARDS IDENTIFICATION

NFPA:
HMIS III:

Health = 3, Fire = 0, Reactivity = 0
H*3/F0/PH0







GHS Signal Word:
DANGER

GHS Hazard Pictograms:

GHS Classifications:
Physical, Corrosive to Metals, 1
Health, Acute toxicity, 4 Oral
Health, Acute toxicity, 4 Dermal
Health, Skin corrosion/irritation, 1 B
Health, Serious Eye Damage/Eye Irritation, 1
Health, Specific target organ toxicity - Single exposure, 3
Environmental, Hazards to the aquatic environment - Chronic, 1

GHS Phrases:
H290 - May be corrosive to metals
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects

GHS Precautionary Statements:
P234 - Keep only in original container.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
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.
P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 - Specific treatment (see supplementary first aid instructions on this label).
P337+313 - Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage. Hazardous to the aquatic life.
P403+233 - Store in a well ventilated place. Keep container tightly closed.
P405 - Store locked up.
P406 - Store in a corrosive resistant/stainless steel container with a resistant inner liner.
P501 - Dispose of contents/container to an approved waste disposal plant.

EUH032 - Contact with acids liberates very toxic gases.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
N/A	75-89	Proprietary, non-hazardous, non-regulated
1310-58-3	0-10%	Potassium hydroxide
7320-34-5	0-10%	Diphosphoric acid, tetrapotassium salt
7681-52-9	1-5%	Sodium hypochlorite

4 FIRST AID MEASURES

Inhalation: Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

Skin Contact: Take off contaminated clothing and shoes immediately. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.

Eye Contact: Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get immediate medical attention. Continue rinsing eyes during transport to hospital.

Ingestion: Rinse mouth with water. Give 3-4 glasses of water or milk to dilute stomach contents. Do NOT induce vomiting. If vomiting occurs, give more water or milk. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed:
The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11. Because of the likely corrosive effects on the gastrointestinal tract after ingestion, evacuating stomach contents via emesis or gastric lavage should be avoided. Inhalation can irritate the lungs, and prolonged exposure and/or higher concentrations may cause pulmonary edema.

Indication of any immediate medical attention and special treatment needed:
No data available.

5 FIRE FIGHTING MEASURES

Flammability: No data available
Flash Point: DNA
Flash Point Method: DNA
Burning Rate: No data available
Autoignition Temp: No data available
LEL: DNA
UEL: DNA

Extinguishing Media:
Water Spray
Carbon Dioxide
Dry Chemical

Special Hazards Arising From the Substance or Mixture:
Chlorine gas
Hydrogen Chloride gas

Potassium Oxides
Phosphorous Oxides
Sodium Oxides

Advice for Firefighters:
Firefighters should wear full-face, positive-pressure respirators.

Further Information:
If incinerated, may release toxic fumes.
Do NOT use Mono Ammonium Phosphate (MAP) fire extinguishers, as reaction with Sodium Hypochlorite may cause explosion with release of toxic gases.
Use water spray to cool unopened containers.
See Section 7 for more information on safe handling.
See Section 8 for more information on personal protection equipment.
See Section 13 for disposal information.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Use personal protective equipment.
Keep from contacting skin or eyes.
Avoid breathing vapors, mist or gas.
Ensure adequate ventilation.
Evacuate personnel to safe areas.

Environmental precautions:
Prevent further release (leakage/spillage) if safe to do so.
Do not allow product to enter drains.
Do not allow to drain to environment.

Methods and materials for containments and cleaning up:
Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
Neutralization can be done with Sodium Bisulfite (powder or 5% aqueous solution) followed by Sodium Bicarbonate.
Place contaminated material into suitable, closed containers for disposal.
Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

Reference to other sections:
Comply with federal, state and local regulations on reporting spills.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on proper disposal.

7 HANDLING AND STORAGE

Handling Precautions:

Avoid formation of dust or aerosols.
Avoid breathing vapors, mist or dust.
Avoid contact with eyes, skin, or clothing.
Use approved, original containers only.
Keep containers closed when not in use.
Do not expose containers to open flame, excessive heat, or direct sunlight.

Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Do not use corrosive-sensitive materials for handling product.
Wash thoroughly after handling.
Ensure adequate ventilation.

Storage Requirements:

Keep away from heat, sparks and flames.
Do not store in direct sunlight.
Store away from, strong acids, strong oxidizing agents, strong reducing agents, organic materials, water, chlorinated solvents, reactive metals (Zinc & Aluminum) and their alloys (Brass), Copper and its alloys, Alkali metals (Lithium, Sodium, Potassium, etc.), Tin & Tin oxides, Lead, Iron, Nickel, Cobalt, Phosphorous & Phosphorous Pentoxide, Nitro compounds (Nitromethane, etc.), Methanol, Amines, Ammonia, Azides and Anhydrides.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip: Eye/face protection:
When using material use safety goggles, gloves, apron and face shield according to HMIS PP, D. A vapor respirator according to HMIS PP, U is also highly recommended when working with heated and/or concentrated product in poorly-ventilated spaces. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection:
Handle with gloves made from Neoprene, Nitrile, Viton or Buma rubber. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection:
Chemically resistant gloves, apron and safety glasses are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

Respiratory protection:
Full-face dust/vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds.

Control of environmental exposure:
Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Component(s): Potassium Hydroxide; Diphosphoric acid, tetrapotassium salt; Sodium Hypochlorite
CAS No(s): 1310-58-3; 7320-34-5; 7681-52-9
USA OSHA Table Z-1 Limits for Air Contaminants (C): 2 mg/m^3
USA ACGIH (C/TLV): 2 mg/m^3
USA NIOSH Recommended Exposure Limits (C): 2 mg/m^3
USA Workplace Environmental Exosure Levels (STEL/WEEL): 2 mg/m^3
USA ACGIH (TLV/TWA): 2 mg/m^3 (as Chlorine)
USA ACGIH (STEL): 4 mg/m^3 (as Chlorine)
USA OSHA (PEL): 2 mg/m^3 (as Chlorine)
USA OSHA (STEL): 4 mg/m^3 (as Cl_2)
USA NOISH (IDLH): 20 mg/m^3 (as Chlorine)
USA NOISH (CEIL): 2 mg/m^3 (as Chlorine)

Biological occupational exposure limits:

Contains no substances with biological occupational exposure limits values.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless to pale-yellow liquid		
Physical State:	Liquid	**Odor:**	Chlorine
Odor Threshold:	Not determined	**Molecular Formula:**	MIXTURE
Particle Size:	No data available	**Solubility:**	100%
Spec Grav./Density:	1.264 g/ml (10.55 lbs/gal)	**Softening Point:**	Not determined
Viscosity:	Not determined	**Percent Volatile:**	DNA
Sat. Vap. Conc.:	DNA	**Heat Value:**	Not determined
Boiling Point:	> 115 °C (239 °F)	**Freezing/Melting Pt.:**	< 0 °C (32 °F)
Flammability:	(solid, gas): Not determined	**Flash Point:**	DNA
Partition Coefficient:	Not determined	**Octanol:**	Not determined
Vapor Pressure:	(mm Hg @ 20 °C): DNA	**Vapor Density:**	(air = 1): Not determined
pH:	@ 1%: 12.9 - 13.3	**VOC:**	DNA
Evap. Rate:	DNA	**Bulk Density:**	Not determined
Molecular weight:	MIXTURE	**Auto-Ignition Temp:**	Not determined
Decomp Temp:	Not determined	**UFL/LFL:**	DNA

10 STABILITY AND REACTIVITY

Stability:	Product is stable under normal conditions.
Conditions to Avoid:	Incompatibilities, flames, ignition sources.
Materials to Avoid:	Strong acids, strong oxidizing agents, strong reducing agents, organic materials, water, chlorinated solvents, reactive metals (Zinc & Aluminum) and their alloys (Brass), Copper and its alloys, Alkali metals (Lithium, Sodium, Potassium, etc.), Tin & Tin oxides, Lead, Iron, Nickel, Cobalt, Phosphorous & Phosphorous Pentoxide, Nitro compounds (Nitromethane, etc.), Methanol, Amines, Ammonia, Azides and Anhydrides.
Hazardous Decomposition:	Chlorine gas, Hydrogen Chloride gas, Potassium Oxides, Phosphorous Oxides and Sodium Oxides.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Component(s): Potassium Hydroxide; Diphosphoric acid, tetrapotassium salt; Sodium Hypochlorite
CAS No(s): 1310-58-3; 7320-34-5; 7681-52-9

Acute Toxicity:
LD50 Oral - Rat: 333 mg/kg
LD50 Dermal - Rabbit: > 4,640 mg/kg
LDLo Oral - Rat: 140 mg/kg
LDLo Oral - Human: 1,000 mg/kg
LDLo Intravenous - Human: 45 mg/kg

Skin Corrosion/Irritation: Rabbit skin - Corrosive (24 h).

Serious Eye Damage/Eye Irritation: Rabbit eyes - Corrosive (24 h).

Respiratory or Skin Sensitation: No data available.

Germ Cell Mutagenicity:

Mutation in Microorganisms - Salmonella typhimurium (Bacteria): 1 mg/plate
DNA Repair - Escherichia coli (Bacteria): 20 µg/disc
DNA Damage - Escherichia coli (Bacteria): 420 µmol/l
Phage Inhibition Capacity - Escherichia coli (Bacteria): 103 µg/well

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity - Single Exposure: Respiratory system - May cause respiratory irritation.

Specific Target Organ Toxicity - Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Additional Information:
Component: Potassium Hydroxide
RTECS: TT2100000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin.

Component: Diphosphoric acid, tetrapotassium salt
RTECS: JL6735000
Material causes irritation of the skin and respiratory system, and severe irritaition of the eyes.

Component: Sodium Hypochlorite
RTECS: NH3486300
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin.

12 ECOLOGICAL INFORMATION

Component(s): Potassium Hydroxide; Sodium Hypochlorite
CAS No(s): 1310-58-3; 7681-52-9

Toxicity:

Toxicity to fish:
LC50 - Clupea harengus (Atlantic Herring): 0.033 - 0.097 mg/l (96 h)
LC50 - Cymatogaster aggregata (Shiner Perch): 0.045 - 0.098 mg/l (96 h)
LC50 - Gasterosteus aculeatus (Three-Spined Stickleback): 0.041 - 0.193 mg/l (96 h)
LC50 - Oncorhynchus gorbuscha (Pink Salmon): 0.023 - 0.052 mg/l (96 h)
LC50 - Oncorhynchus kisutch (Coho Salmon): 0.026 - 0.038 mg/l (96 h)
LC50 - Parophyrs vetulus (English Sole): 0.044 - 0.144 mg/l (96 h)
LC50 - Pimephales promelas (Fathead Minnow): 0.22 - 0.62mg/l (96 h)

Toxicity to invertebrates:
EC50 - Daphnia magna (Water Flea): 0.07 - 0.7 mg/l (24 h)
EC50 - Daphnia magna (Water Flea): 2.10 mg/l (96 h)
EC50 - Gammarus fasciatus (Freshwater Shrimp): 4.0 mg/l (96 h)

Persistence and Degradability:
No data available

Bioaccumulative potential:
No data available

Mobility in Soil:
No data available

Results of PBT and vPvB assessment:
Not required/conducted

Other Adverse Effects:
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13 DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14 TRANSPORT INFORMATION

DOT Class: Corrosive (8) #8
UN #: UN 3266, Class: 8, Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s. (containing Potassium Hydroxide, Sodium Hypochlorite)

DOT (US)
UN Number: 3266
Class: 8
Packing Group: III
ERG #: 154
Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s. (containing Potassium Hydroxide, Sodium Hypochlorite)
Reportable Quantity (RQ): 100 lbs (Sodium Hypochlorite)
Marine Pollutant: No
Poison Inhalation Hazard(s): No

IMDG
UN Number: 3266
Class: 8
Packing Group: III
EMS-No: F-A, S-B
Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s. (containing Potassium Hydroxide, Sodium Hypochlorite)
Marine Pollutant: No

IATA
UN Number: 3266
Class: 8
Packing Group: III
ERG #: 154
Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s. (containing Potassium Hydroxide, Sodium Hypochlorite)
Marine Pollutant: No

15 REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES
---

*Potassium hydroxide, solid (1310583 0-10%) CERCLA, CSWHS, MASS, NJHS, OSHAWAC, PA, SARA311/312, TSCA, TXAIR

*Diphosphoric acid, tetrapotassium salt (7320345 0-10%) NJHS, PA, SARA311/312, TSCA

*Sodium hypochlorite (7681529 1-5%) CERCLA, CSWHS, MASS, NJHS, PA, SARA311/312, TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
MASS = MA Massachusetts Hazardous Substances List
NJHS - New Jersey Right to Know Hazardous Substances
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA311/312 = SARA 311/312 Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

16 OTHER INFORMATION

Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that California Soda Company believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of California Soda Company's control, California Soda Company makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

Preparation Information:

GHS Conversion Services
www.ghsconversionservices.com
(669) 236-0304