your partner in food safety

Safety Data Sheet

Revision Date: 11/09/2018

1. Product Identification

Product Name:	ORCA
Product Code:	I03057
Recommended Use:	Chlorinated alkaline builder for use through BIRKO BOSS system
Manufacturer:	Birko Corporation 9152 Yosemite Street Henderson, CO 80640-8027
Contact Information:	(303) 289-1090 or 1-800-525-0476
Emergency Number:	CHEMTREC 1-800-424-9300

2. Hazard(s) Identification

GHS Classification:

Physical hazards Oxidizing liquids Category 2

Corrosive to metals Category 1

Health hazards Skin corrosion/irritation Category 1A

Serious eye damage/eye irritation Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1

Hazardous to the aquatic environment, long-term hazard Category 1

long-term hazard

Label Elements:

Symbols:

Signal Word: DANGER

Hazard Statement(s):

May intensify fire; oxidizer. May be corrosive to metals. Causes severe skin burns and eye damage. Causes severe skin burns and eye damage. Causes serious eye damage. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention	Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container. Do not breathe mist or vapor. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish. Absorb spillage to prevent material damage.
Storage	Store away from incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in accordance with local/regional/national/international regulations.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental	1% of the mixture consists of component(s) of unknown acute oral toxicity. 22.4% of the mixture consists of component(s) of unknown acute dermal toxicity. 12.5% of the mixture consists of component(s) of unknown acute inhalation toxicity. 9.9% of the mixture consists of component(s) of unknown acute hazards to the aquatic

environment. 9.9% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/ Information on Ingredients

Name(s)	CAS Number	Weight %
Sodium Hypochlorite	7681-52-9	11.9 - < 15.6
Sodium Hydroxide	1310-73-2	0.1 - < 2
Other components below reportable levels		86.5
*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.		

4. First-Aid Measures

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

Skin contact IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, 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.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Contact with combustible material may cause fire. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Firefighting Measures

Suitable Extinguishing Media: Foam. Powder. Carbon dioxide (CO2).

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific Hazards: Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.

Firefighting equipment /instructions In case of fire and/or explosion do not breathe fumes. In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk.

Special Protective Actions for Fire-Fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental Release Measures

Personal Precautions: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless

wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental Precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and Materials for Containment and Clean-Up: Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and Storage

Precautions for Safe Handling: Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for Safe Storage Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in original tightly closed container. Keep only in the original container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Name (CAS-No.)	Type	BASIS
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)		
Sodium Hydroxide (CAS 1310-73-2)	PEL	2 mg/m3
US. ACGIH Threshold Limit Values		
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3
US. NIOSH: Pocket Guide to Chemical Hazards		
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/3
US. Workplace Environmental Exposure Level (WEEL) Guides		
Sodium Hypochlorite (CAS 7681-52-9)	STEL	2 mg/m3

Personal Protective Equipment

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Biological limit values No biological exposure limits noted for the ingredient(s).

Engineering Controls Good general ventilation (typically 10 air changes per hour) should be used. 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. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities

	and emergency shower must be available when handling this product. It is recommended that users of this product perform a risk assessment to determine the appropriate PPE.
Eye/Face:	Wear chemical goggles and face shield. Do not get in eyes. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin	Wear appropriate chemical resistant clothing.
Gloves:	Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
Respiratory:	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance:		**Solubility:**	Soluble in water
Physical state	Clear	**Boiling Point:**	> 230 °F (> 110 °C)
Form	Liquid	**Flash Point:**	Not available.
Color	Clear to pale yellow	**Evaporation Rate:**	Not available.
Odor:	Chlorine	**Flammability:**	Not applicable
Odor threshold:	Not available	**Partition coefficient:**	Not available.
Vapor Pressure:	12 mm Hg @20°C	**Auto-Ignition Temperature:**	Not available.
Vapor Density:	Not available.	**Decomposition Temperature:**	Not available.
pH in aqueous solution	12 - 14 (1% in DI Water)	**Viscosity**	Not available.
Relative Density:	Not available.	**Other information**	Not available.
Melting Point:	-4 - 3 °F (-20 - -16.11 °C)	**Specific gravity**	1.209 @20°C
Freezing Point:			

10. Stability and Reactivity

Reactivity:	Greatly increases the burning rate of combustible materials. Reacts violently with strong acids. This product may react with oxidizing agents. May be corrosive to metals.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions	Reacts violently with strong acids. This product may react with oxidizing agents. Hazardous polymerization does not occur.
Conditions to Avoid:	Heat. Contact with incompatible materials. Do not mix with other chemicals.
Incompatible Material	Strong acids. Acids. Strong oxidizing agents. Oxidizing agents. Combustible material. Reducing agents. Metals. Bases, alkalis (organic).
Hazardous Decomposition Products:	Chlorine. Hydrogen chloride.

11. Toxicological Information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin Contact	Causes severe skin burns.
Eye Contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	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.
Information on toxicological effects	
Acute toxicity	Not known.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not a respiratory sensitizer. This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	Sodium Hypochlorite (CAS 7681-52-9) - 3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Specific target organ toxicity (STOT) - single exposure	Not classified.
STOT-repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity

Product		Species	Test Results
Sodium Hypochlorite 12.5%			
	EC50		40 mg/l, 96 hours Nittocra Spinipes Fasciatus
			4 mg/l, 96 hours Gammarus Fasciatus
Aquatic			
Crustacea	EC50	Daphnia	2519.1724 mg/l, 48 hours estimated
			0.07 - 0.7 mg/l, 24 hours magnia
			0.006 mg/l, 24 hours Ceriodaphina sp.
Fish	LC50	Fish	12.5131 mg/l, 96 hours estimated
Sodium Hydroxide (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
Sodium Hypochlorite (CAS 7681-52-9)			
Aquatic			
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.038 - 0.065 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Waste Treatment Methods

Product Disposal	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulation	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

UN Number:	UN1791
UN Proper Shipping Name:	Hypochlorite solutions, MARINE POLLUTANT
Transport Hazard Class (es):	8
Packing Group:	III
Marine pollutant	Yes.
Special precautions for us	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, N34, T4, TP2, TP24
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

Reportable Quantity for Sodium Hypochlorite = 100 lbs.

Not a Marine Pollutant by DOT in containers of 119 gallons or less.

IATA

UN Number:	UN1791
UN Proper Shipping Name:	Hypochlorite solution
Transport Hazard Class (es):	8
Packing Group:	III
Environmental hazards	Yes
ERG Code 8L	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Environmental Hazard(s):	Yes
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

DOT

UN Number:	UN1791
UN Proper Shipping Name:	Hypochlorite solutions, MARINE POLLUTANT
Transport Hazard Class (es):	8
Packing Group:	III
Marine pollutant	Yes.
EmS	Not available
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling

15. Regulatory Information

Federal Regulations:	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)	Sodium Hydroxide (CAS 1310-73-2) Listed. Sodium Hypochlorite (CAS 7681-52-9) Listed.
SARA 304 Emergency release notification	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not regulated.
Superfund Amendments and Reauthorization Act of 1986 (SARA)	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	Not listed.
SARA 311/312 Hazardous chemical	Yes
SARA 313 (TRI reporting)	Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated.
Safe Drinking Water Act	Not regulated.
US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))	Sodium Hydroxide (CAS 1310-73-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australlia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes

Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS		NFPA	
HEALTH	3	HEALTH HAZARD	3
FLAMMABILITY	0	FIRE HAZARD	0
REACTIVITY	1	INSTABILITY HAZARD	1
PROTECTIVE EQUIPMENT		SPECIFIC HAZARD	OX

Disclaimer

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 guidance 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.

ISO 9001 DOCUMENT CONTROL

Document:	BCD-0022-FX	Document Name:	10-Chlor_I00228_SDS
Responsibility	EHS Manager		
Created on:		Created by	Birko Corporation
Method of Approval:	Publication to sales drive		
Hard Copy Location	SDS Binders		
Electronic Location:	Sales/SDS		
Website URL	http://www.birkocorp.com/resources/safety-data-sheets/		
Change History			
Date	Description of Revision		
5/19/2015	Updated to GHS format		
10/31/2017	Updated SDS to reflect GHS standards		