MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) complies with the requirements of the American National Standards Institute (Z400.1, 1998), U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200), and equivalent state Standards. It has also been developed in accordance with the Canadian Workplace Hazardous Materials Standard and the United Nations Globally Harmonized System of Classification of Chemicals. Refer to Section 16 of this document for the definition of terms and abbreviations.

1. PRODUCT IDENTIFICATION

PRODUCT: **Blue Devil Solution # 4 Chlorine Neutralizer**
PRODUCT VOLUMES: 0.5 oz
CHEMICAL NAME/CLASS: Aqueous Inorganic Compound Solution
PRODUCT CODE: **B7044, B7455C** (0.5 oz); Part of Test Kits **B7450, B7446C, B7448, B7550, B7443, B7770** and **B7773**
PRODUCT USE: Testing of Pools and Spas

MANUFACTURER/
SUPPLIER/DISTRIBUTOR: **Valterra Products, Inc.**
ADDRESS: 15230 San Fernando Mission Blvd.; Suite 107
Mission Hills, CA 91345

BUSINESS PHONE #: 818-898-1671
EMERGENCY PHONE #: CHEMTEC:1-800-424-9300 / 1-703-527-3887
DATE/ MSDS PREPARATION: Dec. 5, 2006
DATE/ MSDS REVISION: Jan. 1, 2019

These products are sold to consumers for pool and spa maintenance use in containers of relatively small volume (i.e. 0.5 oz). This MSDS has been developed to address safety concerns affecting those individuals working in warehouses and other places where large numbers of these containers are stored, as well as those affecting potential users of this product in industrial /occupational or manufacturing settings.

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product can mildly irritate contaminated tissue.

PHYSICAL DESCRIPTION: Clear, colorless, odorless solution.

HEALTH HAZARDS: No significant health hazards are anticipated under typical circumstances of use or release response; contact with skin may cause mild irritation upon prolonged duration of contact. Contact with eyes can cause irritation and temporary redness.

FIRE HAZARDS: No known fire hazard.

PHYSICALHAZARDS: Negligible under typical circumstances of use or under anticipated emergency response situations.

ENVIRONMENTAL HAZARDS: No significant hazards to animal, plant or aquatic life.



GLOBALLY HARMONIZED SYSTEM REVIEW:

CLASSIFICATION: Eye Irritant Category 2B – Irritant; Acute Toxicity Category 5.

LABELING:

Symbol:. Not applicable.

Signal Word: WARNING!

Hazard Statement: Causes eye irritation. May be harmful if swallowed.

Precautionary Statements: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. IF SWALLOWED: Call a POISON CONTROL CENTER or physician if you feel unwell.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	EINECS #	% (w/w)	OTHER
Sodium Thiosulfate	7772-98-7	231-867-5	<0.1%	NE
Water	7732-18-5	231-791-2	>98%	NE
Other ingredients that are below 1.0% in concentration (or below 0.1% in concentration for carcinogens), All ingredients are listed per the requirements of regulations pertinent to MSDS preparation.			Balance	NE

4. FIRST AID MEASURES

EYES: Hold contaminated eyes open and flush with copious amounts of water for 15 minutes. "Roll" eyes during flush.

SKIN: Flush area with warm, running water. Continue rinsing with water for at least 15 minutes, if any evidence of redness or irritation occurs.

INHALATION: Obtain fresh air. If necessary, blow nose.

INGESTION: Drink copious amounts of water. Contact professional medical personnel or the local poison control center immediately.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known.

5. FIRE-FIGHTING MEASURES



NFPA RATING

NFPA FLAMMABILITY CLASSIFICATION: Not flammable.

RECOMMENDED FIRE EXTINGUISHING MEDIA: Water Spray, Water Jet, Dry Powder, Foam, Carbon Dioxide, Halon, or any other.

UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

UNUSUAL HAZARDS IN FIRE SITUATIONS: When involved in a fire, this material may produce irritating vapors and toxic gases (e.g., carbon monoxide, carbon dioxide, oxides of sulfur).

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

RECOMMENDATIONS TO FIREFIGHTERS: Wear Self Contained Breathing Apparatus and full protective equipment for fire response. Move containers from fire area if it can be done without risk to personnel. Contaminated equipment should be rinsed thoroughly with water before returning to service.

6. ACCIDENTAL RELEASE MEASURES

RESPONSE TO INCIDENTAL RELEASES: Wear gloves and safety glasses when cleaning-up spills. Use caution during clean-up; contaminated floors and items may be slippery.

RESPONSE TO NON-INCIDENTAL RELEASES: Not anticipated to occur, due to the nature of the product.

ENVIRONMENTAL PRECAUTIONS: Avoid response actions that can cause a release of a significant amount of the substance (1 liter or more) into the environment.

RESPONSE PROCEDURES FOR ANY RELEASE: Sponge spilled compound with a damp polypad or other absorbent.

SPILL RESPONSE EQUIPMENT: Polypad or other absorbent material, if needed.

7. HANDLING AND STORAGE

HYGIENE PRACTICES: Keep out of reach of children**.** Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of vapors, mists and sprays. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up any spilled product immediately.

HANDLING RECOMMENDATIONS: Only small quantities of this product are used to test pools and spas**.** Employees must be appropriately trained to use this product safely as needed.

STORAGE RECOMMENDATIONS: Ensure all containers are correctly labeled. Store container in cool, dry place away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals (See Section 10, Stability and Reactivity).

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures).

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

U.S. NATIONAL EXPOSURE LIMITS:

COMPONENT	ACGIH TLV (ppm)	OSHA PEL (ppm)	NIOSH REL (ppm)	OTHER
Sodium Thiosulfate	NE	NE	NE	NE

INTERNATIONAL EXPOSURE LIMITS:

COMPONENT	Exposure Limit (United Kingdom Compliance Note EH 40)	Federal Republic of Germany (DFG) Maximum Concentration Values in the Workplace (MAKs)	OTHER
Sodium Thiosulfate	NE	NE	NE

ENGINEERING CONTROLS: Use this product in well-ventilated environment.

RESPIRATORY PROTECTION: None needed under routine circumstances of use.

HAND PROTECTION: Rubber, latex, or neoprene gloves should be used when prolonged contact is anticipated.

EYE PROTECTION: Splash goggles or safety glasses with side shield are recommended if splashes or sprays are anticipated.

BODY PROTECTION: None needed under typical situations of use or handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid.
COLOR: Clear, red.
ODOR: None.
pH: 5.0-8.0.
BOILING POINT: Approximately100°C (212°F).
MELTING POINT: Approximately 0°C (32 °F).
REFRACTIVE INDEX: Not applicable.
VISCOCITY: ≈ 0.890 cP at about 25 °C.
FLASH POINT: Not applicable.
LOWER EXPLOSIVE LIMIT (LEL): Not applicable.
UPPER EXPLOSIVE LIMIT (UEL): Not applicable.
AUTOIGNITION TEMPERATURE: Not applicable.
VAPOR PRESSURE: ≈17.5 mmHg at 20°C.
VAPOR DENSITY (air = 1): ≈17.3 g/m^3 at 20°C.
SPECIFIC GRAVITY (water = 1): Approximately1.0.
EVAPORATION RATE (water = 1): ≈1.0
COEFFICIENT OIL/WATER DISTRIBUTION (PARTITION COEFFICENT): Not established.

10. STABILITY AND REACTIVITY

RELATIVE STABILITY (AT STANDARD TEMPERATURES AND PRESSURES): Normally stable.

INCOMPATIBILITIES: Strong oxidizers, strong acids and compounds that react with water.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS CHEMICAL DECOMPOSITION PRODUCTS: Not applicable.

CONDITIONS TO AVOID: Avoid contact with incompatible chemicals.

11. TOXICOLOGY INFORMATION

CARCINOGENICITY STATUS: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be, or suspected to be, a carcinogen by the listed agency

CHEMICAL	IARC	NTP	NIOSH	OSHA	OTHER
Sodium Thiosulfate	NO	NO	NO	NO	NO
Water	NO	NO	NO	NO	NO

REPRODUCTIVE TOXICITY INFORMATION: This product is not known to cause any adverse effect on the human reproductive system.

TOXICOLOGY DATA: No data are available for components of this product present in greater than 1 percent concentration.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None known.

DEGREE OF IRRITATION: Mild.

SENSITIZATION POTENTIAL: Not applicable.

12. ECOLOGICAL INFORMATION

TOXICITY TO TERRESTRIAL LIFE: Based on available data, this product is not anticipated to be harmful to contaminated plants or animals. Prudent practice would be to minimize all releases to the environment.

TOXICITY TO AQUATIC LIFE: Based on available data, this product is not anticipated to be harmful to contaminated aquatic plants or animals. Prudent practice would be to minimize all releases to the environment.

MOBILITY, PERSISTENCE, AND DEGRADABILITY: This product contains is mobile and presents limited hazards to the environment; however, good hygiene practices should be implemented to prevent all accidental releases to the environment.

BIOACCUMULATION AND BIOCONCENTRATION POTENTIAL: It is not anticipated that this product will bioaccumulate or bioconcentrate significantly in the environment.

13. DISPOSAL CONSIDERATIONS

WASTE HANDLING RECOMMENDATIONS: Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or the appropriate standards of the nations of the European Community.

EPA RCRA WASTE CODE: Not applicable. **EUROPEAN WASTE CODE:** Not applicable.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION HAZARDOUS MATERIALS SHIPPING REGULATIONS:

PROPER SHIPPING NAME: Not hazardous, per US DOT regulations.
HAZARD CLASSIFICATION: Not applicable.
UN/NA IDENTIFICATION NUMBER: Not applicable.
PACKING GROUP: Not applicable.
LABEL: Not applicable.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK (2008): Not applicable.

MARINE POLLUTANT STATUS: No component is designated as a DOT Marine Pollutant.

CANADIAN TRANSPORTATION INFORMATION: This product is NOT regulated by Transport Canada as dangerous goods under Canadian transportation standards.

IATA DESIGNATION: This product is NOT regulated as dangerous goods by the International Air Transport Association.

15. REGULATORY INFORMATION

OTHER IMPORTANT U.S. REGULATIONS

CERCLA REPORTING REQUIREMENTS: Not applicable.

SARA REPORTING REQUIREMENTS: The following reporting requirements are applicable to the components of this product:

CHEMICAL	SECTION 302 (40 CFR 355 Appendix A)	SECTION 304 (40 CFR Table 302.4)	SECTION 313 (40 CFR 372.65)
Sodium Thiosulfate	NO	NO	NO
Water	NO	NO	NO

SARA SECTION 311/312 FOR PRODUCT: Not applicable.

CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS: No component of this product is known to the State of California to cause cancer or other reproductive harm.

INTERNATIONAL REGULATIONS

CANADIAN DSL/NDSL INVENTORY STATUS: The listed components of this product are on the DSL/NDSL Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this product are not on the CEPA Priorities Substances Lists.

CANADIAN WHMIS CLASSIFICATION: Skin or Eye Irritation [Class D; Division 2, Subdivision B]. See symbol to right.



16. OTHER INFORMATION

DEFINITION OF TERMS AND ABBREVIATIONS

ALL SECTIONS: OSHA:U.S. Federal Occupational Safety and Health Administration. WHMIS: Canadian Workplace Hazardous Materials Standard. GHS: Globally Harmonized System of Classification of Chemical Substances.

SECTION 2: CAS Number: Chemical Abstract Service Number, which is used by the American chemical Society to uniquely identify a chemical. EINECS: European Inventory of Existing Commercial Substances.

SECTION 3: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 5: NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (Fl.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: Fl.P. below 73°F and BP below 100°F. Class IB: Fl.P. below 73°F and BP at or above 100°F. Class IC: :Fl.P. at or above 73°F and BP at or above 100°F. Class II: : Fl.P. at or above 100°F and below 140°F. Class IIIA: Fl.P. at or above 140°F and below 200°F. Class IIIB: Fl.P. at or above 200°F. NFPA HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 8: NE:Not established. ACGIH: American Conference of Government Industrial Hygienists; TWA: Time-Weighted Average (over an 8-hour work day); STEL: Short-Term Exposure Limit (15 minute average, no more than 4-times daily and each exposure separated by one-hour minimally); C: Ceiling Limit (concentration not to be exceeded in a work environment). PEL: Permissible Exposure Limit. NIOSH: National Institute of Occupational Safety and Health; REL: Recommended Exposure Limit; IDLH: Immediately Dangerous to Life and Health Concentrations. *Note*: In July 1992, a court ruling vacated the more protective PELs set by OSHA in 1989. Because OSHA may enforce the more protective levels under the "general duty clause", both the current and vacated levels are presented in this document. ppm: Parts per Million. mg/m^3: Milligrams per cubic meter. mppcf: Millions of Particles per Cubic Foot. BEI: Biological Exposure Limit. EL: Exposure Limit (United Kingdom). Federal Republic of Germany (DFG) Maximum Concentration Values in the Workplace (MAKs)

SECTION 9: pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. FLASH POINT: Temperature at which a liquid generates enough flammable vapors so that ignition may occur. AUTOIGNITION TEMPERATURE: Temperature at which spontaneous ignition occurs. LOWER EXPLOSIVE LIMIT (LEL): The minimal concentration of flammable vapors in air which will sustain ignition. UPPER EXPLOSIVE LIMIT (UEL): The maximum concentration of flammable vapors in air which will sustain ignition.≈: Approximately symbol.

SECTION 11: CARCINOGENICITY STATUS: NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. REPRODUCTIVE TOXICITY INFORMATION: Mutagen: Substance capable of causing chromosomal damage to cells. Embryotoxin: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. TOXICOLOGY DATA: LD*xx*or LC*xx*: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (*xx*) of exposed test animals by the designate route of administration. This value is used to access the toxicity of chemical substances to humans. TD*xx*or TC*xx*: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (*xx*) of exposed test animals by the designate route of administration.

SECTION 13: RCRA: Resource Conservation and Recovery Act. The regulations promulgated under this act under Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. EPA RCRA Waste Codes: Defined in 40 CFR Section 261.

SECTION 15: CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. "Superfund") and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this Act are located under 40 CFR 300 ff. and provide "community right-to-know" requirements. DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.