SAFETY DATA SHEET

1. Product and Company Identification

Product Name: Spa Bromine Base

Alternate Product: Sodium Bromide

Chemical Formula: NaBr

General Use: For use in swim pools and spas

Manufacturer:
QUALCO, INC.
225 Passaic Street
Passaic, NJ 07936

Emergency Telephone Numbers:
800-424-9300 (CHEMTREC – US)
Phone: 973-473-1222 (Qualco, Inc.)
Fax: 973-473-0535 (Qualco, Inc.)

2. Hazards Identification

Emergency Overview:
White odorless, granular solid
Harmful is swallowed. Harmful if swallowed.
Potential Health Effects:
Eye Contact: Mild irritant.
Skin Contact: Non-irritant to intact skin. Slight irritant with prolonged contact to abraded skin.
Inhalation: Irritant to upper respiratory tract.
Ingestion: Abdominal pain, nausea and vomiting. May cause falling asleep, muscular incoordination and respiratory depression.
Chronic effects/Carinogenicity: Repeated skin contact may cause dermatitis.

3. Composition & Information on Ingredients

Chemical Name	CAS #	Wt. %
Sodium Bromide	7647-15-6	98-100%

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

4. First Aid Measures

Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin: Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention if irritation occurs.

Ingestion: Call poison control center, or doctor immediately for treatment advice. Have person sip glass of water, if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, them give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Notes to Medical Doctor: Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire Fighting Measures

Extinguishing Media: Not combustible, use extinguishing method suitable for surrounding fire.

Fire/Explosion Hazards: Not applicable

Fire Fighting Procedures: Cool containers with water spray. In closed stores, provide fire-fighters with self-contained breathing apparatus in possible pressure mode.

Unusual fire and explosion hazards: Will decompose from ca 800^{o}C releasing poisonous and corrosive fumes of bromine, hydrogen bromide and sodium oxide.

6. Accidental Release Measures

Personal Precautions: Use dust respirator, rubber gloves and chemical safety goggles.

Containment: Prevent large quantities of this product from contacting vegetation or waterways, large spills could kill vegetation and fish.

Clean-up: Sweep up, place in bag and hold for waste disposal or possible re-use. Ventilate area and wash spill site after material pickup is complete. Avoid raising dust.

7. Handling and Storage

Handling: Avoid bodily contact. Keep containers tightly closed.

Storage: Keep in a well ventilated place away from incompatible materials (see materials to avoid).

8. Exposure Controls / Personal Protection

Exposure Limits:

Components	**ADGIH-TLV Data**	**OSHA (PEL) Data**
Sodium Bromide (CAS #7647-15-6)	Not Determined	Not Determined

Ventilation Requirements: Provide adequate ventilation

Personal Protective Equipment:

Eyes and Face: For dusty or misty conditions, or when handling solutions where there is reasonable probability of eye contact, wear chemical safety goggles and hard hat. Under these conditions, do not wear contact lenses. Otherwise, appropriate eye and face protection equipment (ANSI Z87 approved) should be selected for the particular use intended for this material. Safety glasses with side shields are recommended.

Respiratory: In case of significant or accidental dust emissions, dust mask should be worn

Hands, Arms, and Body: Wear long-sleeve shirt and trousers, and impervious gloves for routine product use. Cotton gloves are sufficient for dry product. Wear impervious gloves when handling solutions.
Eye Protection: Chemical safety goggles
Skin and Boby Protection: Safety shoes
Hygiene measures: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Safety shower and eye bath should be provided.

9. Physical and Chemical Properties

Material is a Solid at normal conditions.
Odor: Odorless
Appearance and Color: White, granular solid
Auto ignition Temperature: Not applicable
Boiling Point: 1390°C
Solubility in Water: 94.6 g/100 ml at 25°C
Solubility in Other Solvents: ethanol 95%: 7 g/100 g at 25°C methanol: 14.8 g/100 g at 25°C
Partition Coefficient (in-octanol/water): Not applicable. Material soluble in water.
Evaporation Rate: Not applicable
Flash Point: None
Flammable/Explosion limits: Not flammable
Melting Point: 755°C
Odor Threshold: Not applicable
Oxidizing Properties: Not Applicable
Percent Volatile: Not applicable
Viscosity: Not applicable
Specific Gravity: 2.533 (water = 1)
Explosive Properties: Not explosive
Vapor Density: Not applicable
Vapor Pressure: 1 mm?Hg (806°C)

10. Stability and Reactivity

Conditions To Avoid: Heating above decomposition temperature
Stability: Stable under normal conditions. The powder product tends to cake under normal storage conditions.
Polymerization: Will Not Occur
Materials to Avoid: Strong acids. Strong oxidants. Heavy metal salts. Reacts explosively with bromine trifluoride.
Hazardous Decomposition Products: Hydrogen bromide and sodium oxide. Bromine fumes
Other Precautions: When dissolving, add to water cautiously and with stirring; solutions can get hot.

11. Toxicological Information

Acute Toxicity:
Rat Oral LD50: 4200 mg/kg
Rabbit dermal LD50: >2000 mg/kg

Rat Dermal LD50: >2000 mg/kg
Eye Irritation (rabbit): Slightly irritant
Dermal Inhalation (rabbit): Not irritant
Skin corrosion/irritation: Not irritant
Dermal sensitization: Not a sensitizer
Chronic Toxicity: Repeated skin contact may cause dermatitis. Repeated oral intake of bromides (>9 mg/kg body weight/day) may affect the central nervous system. Warning symptoms include mental dullness, slurred speech, weakened memory, apathy, anorexia, constipation, drowsiness and loss of sensitivity to touch and pain.
Mutagenicity: Does not include DNA repair in cultured human epithelioid cells. Not clastogenic in human lymphocytes metaphase analysis. Not mutagenic by the Ames Test.
Carcinogenicity: Not classified by IARC. Not included in NTP 12th Report on Carcinogens
Reproductive toxicity: Sodium bromide has been shown to cause embryo-fetal toxicity and malformations in rats at dose levels which also produce maternal toxicity. The No-Oberved Effect Level (NOEL) is 100 mg/kg/day, and the Acceptable Daily Intake (ADI) for sodium bromide for food and drinking water in humans is 1 mg/kg/day. Comparable high doses of sodium chloride (table salt) similarly cause malformations, embryo-fetal toxicity, and maternal toxicity in mice.
Teratogenicity: In the oral gavage pre-natal developmental toxicity study in the Rabbit, there were no obvious effects of maternal treatment on the survival growth or development of the offspring at any of the dosages investigated. The No Observes Effect Level (NOEL) for the developing conceptus was considered to be 250 mg/kg/day.

12. Ecological Information

Environmental fate: NaBr is an inorganic salt, which fully dissociates in aquatic environment to bromide and sodium ions. It also undergoes degradation in soil to bromide ion (no further degradation or biodegradation will occur)
Aquatic Toxicity:
96 – hour LC50, Fish: >1000 mg/l (rainbow trout)
>1000 mg/l (bluegill sunfish)
48 – hour EC50, Daphnia magna: >1000 mg/l
Avian Toxicity:
Oral LD50, Bobwhite quail: >2250 mg/kg
Dietary LC 50, Mallard Duck: >5633 ppm
Dietary LC50, Bobwhite quail: >5633 ppm
Toxicity to micro-organisms: Activated sewage sludge respiration inhibition test: EC50>1000 mg/l (3 hours): NOEC was 1000 mg/l (3 hours)
Bioaccumulative potential: Not expected to bioaccumulate
Germany, water endangering classes (WGK): 1

13. Disposal Considerations

Waste Disposal: When this product is discarded or disposed of, as purchased, it is neither a characteristic nor a listed hazardous waste according to US Federal RCRA regulations (40 CFR 261). As a non-hazardous waste, the material may be disposed of in a landfill in accordance with government regulations; check local or state

regulations for applicable requirements prior to disposal. Any processing, usage, alteration, chemical additions to, or contamination of the product may alter the disposal requirements. Under Federal regulations, it is the generator's responsibility to determine if a waste is a hazardous waste.

14. Transportation Considerations

US Dept. Of Transportation (DOT)
Proper Shipping Name: Not Regulated
Primary Hazard Class / Division: Not Applicable
UN / NA Number: None
Label(s), Placard(s), Marking(s): Not Applicable
Additional Information:
Hazardous Substance / RQ: Not Applicable
49 STCC Number: Not Applicable
International Maritime Dangerous Goods: Not regulated

15. Regulatory Information

United States
Reported in the EPA TSCA Inventory. This product is registered under FIFRA.
Canada:
Listed in DSL
WHMIS Hazard Class: D2A very toxic materials
EU: Reported in EINECS
EC No.: 231-599-9
Japan: ENCS No. 1-113 ISHL No. 1-113

16. Other Information

Not subject to labeling in accordance with Regulation (EC) No. 1272/2008 (CLP)
This data sheet contains changes from the previous version in section(s) 2, 3, 11, 15
HMIS
Health: 2
Flammability: 0
Physical Hazard: 0
Personal Protection (PPE)*: B
*Protection = B (Safety glasses and gloves)
HMIS: Hazardous Material Identification System
Degree of Hazard Code:
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA

Health: 2
Flammability: 0
Reactivity: 0
Special: None
No Special Requirements
NFPA: National Fire Protection Association
Degree of Hazard Code:
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

Other Information:

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

The Safety Data Sheet is offered for your information, consideration and investigation as required by Federal Hazardous Products Act and related legislation. The information is believed to be accurate but provides no warranties, either expressed or implied.

Date Prepared: 01-10-15 Rev. 3