

**SECTION 1 - PRODUCT IDENTIFICATION**

|                       |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| PRODUCT NAME:         | FORMULA 3340                                                                                    |
| PRODUCT USE:          | BIOCIDE                                                                                         |
| RESTRICTIONS ON USE:  | Refer to label, available technical information, and other appropriate sections of this SDS.    |
| UN NUMBER:            | UN 1760                                                                                         |
| PROPER SHIPPING NAME: | UN 1760, CORROSIVE LIQUID, N.O.S. (BROMIDE SALTS), 8, PG III                                    |
| MANUFACTURER'S NAME:  | Garratt-Callahan Company                                                                        |
| ADDRESS:              | 50 Ingold Road, Burlingame, CA 94010-2206                                                       |
| EMERGENCY PHONE:      | <b>North America: CHEMTREC: 1-800-424-9300</b><br><b>Outside North America: +1-703-527-3887</b> |
| BUSINESS PHONE:       | Product Information: 650-697-5811                                                               |
| SDS NUMBER:           | SD3340                                                                                          |
| DATE OF REVISION:     | 9/11/2017                                                                                       |

**SECTION 2 - HAZARDS IDENTIFICATION**

**SIGNAL WORD:** DANGER

**HAZARD STATEMENT:**

H290: May be corrosive to metals. 1  
H313: May be harmful in contact with skin. 5  
H314: Causes severe skin burns and eye damage. 1A  
H332: Harmful if inhaled. 4



**PRECAUTIONARY STATEMENTS: (PREVENTION)**

P101: If medical advice is needed, have product container or label at hand.  
P102: Keep out of reach of children.  
P103: Read label before use.  
P234: Keep only in original packaging.  
P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
P264: Wash all exposed skin/hair thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM**

|                                  |          |                                                                                                  |
|----------------------------------|----------|--------------------------------------------------------------------------------------------------|
| <b>HEALTH HAZARD (BLUE)</b>      | <b>3</b> | Hazard Scale<br>0=Minimal<br>1=Slight<br>2=Moderate<br>3=Serious<br>4=Severe<br>*=Chronic hazard |
| <b>FLAMMABILITY HAZARD (RED)</b> | <b>0</b> |                                                                                                  |
| <b>PHYSICAL HAZARD (YELLOW)</b>  | <b>0</b> |                                                                                                  |
| <b>PERSONAL PROTECTION</b>       |          |                                                                                                  |

**NFPA RATING  
FLAMMABILITY**



### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Ingredients</u>        | <u>CAS#</u>  | <u>EC#</u> | <u>ICSC#</u> | <u>WT %</u> |
|-------------------------------------|--------------|------------|--------------|-------------|
| SULFAMIC ACID, N-BROMO, SODIUM SALT | 1004542-84-0 | NA         | NA           | 15 - 25     |
| SODIUM HYDROXIDE                    | 1310-73-2    | 215-185-5  | 0360         | 1 - 5       |

### SECTION 4 - FIRST AID MEASURES

Exposed individuals must be taken for medical attention if any adverse effect occurs. Take a copy of this SDS to the health professional with the individual.

**DANGER:** May be corrosive to metals. May be harmful in contact with skin. Causes severe skin burns and eye damage. Harmful if inhaled. Also refer to Section 11 for symptoms, effects, and likely routes of exposure for this product.

#### **TARGET ORGANS:**

**ACUTE:** irritation and possibly burns to skin and eyes. Respiratory and gastrointestinal systems may experience irritation.

**CHRONIC:** irritation of skin, eyes, respiratory and gastrointestinal systems.

**SKIN EXPOSURE:** P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Minimum flushing time is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate the eyes. P363: Wash contaminated clothing before reuse. P310: Immediately call a POISON CENTER or doctor/physician.

**EYE EXPOSURE:** P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Use sufficient force to open the eyelids. Have the exposed individual "roll" their eyes. Minimum flushing time is for 15 minutes. P310: Immediately call a POISON CENTER or doctor/physician.

**INHALATION:** P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310: Immediately call a POISON CENTER or doctor/physician.

**INGESTION:** P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Never induce vomiting or give diluents (milk or water) by mouth to someone who is unconscious, having convulsions, or unable to swallow. P310: Immediately call a POISON CENTER or doctor/physician.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Skin and respiratory disorders, as well as conditions involving the "Target Organs" may be aggravated by prolonged exposures to this product. Exposed individual must seek immediate medical attention if any adverse effect occurs.

**NOTES TO PHYSICIAN:** Treat symptoms as demonstrated by signs and distress in the patient.

### SECTION 5 - FIRE FIGHTING MEASURES

#### **SUITABLE (AND UNSUITABLE) EXTINGUISHING MATERIALS:**

Product is non-flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide, foam, dry chemical.

#### **SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:**

Special hazards arising from the substance or mixture: Non combustible. May give off irritating or toxic fumes (or gases) in a fire.  
Hazardous Combustion Products: May cause fire and explosions when in contact with incompatible materials.

#### **SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:**

Firefighters should wear fully protective clothing (chemical impermeable, fully encapsulated suit) and positive pressure self-contained breathing apparatus. Do not release run off from fire control methods to sewer or waterways.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, ENVIRONMENTAL PRECAUTIONS AND EMERGENCY PROCEDURES.

**WARNING:** Any container expansion or rounding indicates pressure build-up. Use extreme caution. When opening, release pressure slowly through opening.

**SPILL AND LEAK RESPONSE:** Uncontrolled releases should be responded to by appropriately trained personnel using pre-planned procedures. Proper protective equipment should be used, refer to Section 8 - exposure controls. P390: Absorb spillage to prevent material-damage.

**Small Spill:** Mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. P391: Collect spillage.

**Large Spill:** Restrict access to the area. Provide adequate protective equipment and ventilation. Stop leak if without risk. Remove chemicals which can react with the spilled material. Add dry inert material to contain and absorb spilled material. Prevent entry into surface waters, sewers, basements or confined areas, dike if needed. Ensure that exposure to product is not at a concentration exceeding regulatory limits. Decontaminate the area thoroughly. Decontaminate all response equipment with soapy water before returning to service. Place all spill residue in a suitable container and seal. P391: Collect spillage.

## SECTION 7 - HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:** Keep out of reach of children. All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. As with all chemicals, avoid getting this product ON YOU or IN YOU. Avoid direct or prolonged contact with skin or eyes. Do not ingest. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors, dusts or mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately. Use only as directed. Refer to Section 8 for exposure controls.

**CONDITIONS FOR SAFE STORAGE:** Containers of this product must be properly labeled. Storage areas of this product should be clearly identified, well-illuminated, clear of obstruction and accessible only to trained and authorized personnel. Store containers in a clean, cool, dry location, away from direct sunlight, away from incompatible materials at temperatures between 50°F (10°C) - 100°F (37°C). Keep container tightly closed when not in use. P405: Store locked up. Do not ingest. Do not breathe vapor mist. Wash hands after handling. Refer to Section 10 for incompatibilities. Keep container tightly closed. P234: Keep only in original packaging. P406: Store in corrosion resistant container with a resistant inner liner.

## SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation. Eyewash/safety shower station is recommended to be available near where this product is used/stored.

### EXPOSURE LIMITS/GUIDELINES:

### EXPOSURE LIMITS IN AIR

| CHEMICAL NAME                       | CAS#         | ACGIH TLV |                      | OSHA PEL            | OTHER                                |
|-------------------------------------|--------------|-----------|----------------------|---------------------|--------------------------------------|
|                                     |              | TWA       | STEL                 | TWA                 |                                      |
| SULFAMIC ACID, N-BROMO, SODIUM SALT | 1004542-84-0 | NE        | NE                   | NE                  | N/A                                  |
| SODIUM HYDROXIDE                    | 1310-73-2    | NE        | C 2mg/m <sup>3</sup> | 2 mg/m <sup>3</sup> | NIOSH<br>REL<br>C 2mg/m <sup>3</sup> |

NE = Not Established

**INGESTION:** Wash all exposed skin/hair thoroughly after handling. Do not eat, drink, smoke, or apply cosmetics when handling this product.

**RESPIRATORY PROTECTION:** P260: Do not breathe dust/fume/gas/mist/vapours/spray. P271: Use only outdoors or in a well-ventilated area. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. Air-purifying respirators with dust/mist/fume/spray filters are recommended if operations may produce dusts, mists or sprays from this product with concentrations at or above levels posted above.

**EYE PROTECTION:** P264: Wash all exposed skin/hair thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. Wear chemical safety goggles or safety glasses with side shields. A face shield may also be necessary for splash protection.

**SKIN PROTECTION:** P264: Wash all exposed skin/hair thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. Use chemically-resistant gloves and skin protection, when handling this product. Use body protection appropriate for task (e.g., lab coat, overalls).

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

|                                         |                         |                                         |                    |
|-----------------------------------------|-------------------------|-----------------------------------------|--------------------|
| APPEARANCE and COLOR:                   | Bright orange liquid    | VAPOR PRESSURE, mm Hg @ 20°C:           | Not applicable     |
| ODOR :                                  | Mild chlorine like odor | VAPOR DENSITY (Air=1):                  | Not applicable     |
| ODOR THRESHOLD:                         | Not established         | RELATIVE DENSITY@20°C (water=1):        | 1.3 - 1.35 g/ml    |
| pH:                                     | 12.0 - 13.0 (1:100)     | SOLUBILITY IN WATER:                    | Complete           |
| MELTING/FREEZING POINT:                 | <-4°C/25°F              | PARTITION COEFFICIENT(n-octanol/water): | Not established    |
| BOILING POINT:                          | Not established         | AUTOIGNITION TEMPERATURE:               | Not applicable     |
| FLASHPOINT:                             | Non Flammable           | DECOMPOSITION TEMPERATURE:              | Not established    |
| EVAPORATION RATE (n-BuAc=1):            | Not established         | VISCOSITY:                              | 15cSt @20°C (68°F) |
| FLAMMABILITY (SOLID/GAS):               | Not applicable          | VOLATILE ORGANIC COMPOUNDS (%):         | Not established    |
| FLAMMABLE LIMITS (in air by volume, %): | Not applicable          |                                         |                    |

## SECTION 10 - STABILITY AND REACTIVITY

**REACTIVITY:** Reactive with oxidizing agents, reducing agents, organic materials, acids and alkalis

**STABILITY:** Stable for upto 1 year when stored under normal conditions

### POSSIBILITY OF HAZARDOUS

**REACTIONS:** May react with compatible materials.

**CONDITIONS TO AVOID:** Avoid contact with strong acids and oxidizers. Incompatible materials and cold temperatures.

**INCOMPATIBLE MATERIALS:** Strong reducing agents such as sulfite and metabisulfite, strong acids and bases. Never mix this product with undiluted sodium hypochlorite bleach. The mixture will result in a violent exothermic reaction that produces a great deal of heat and nitrogen gas bubble.

### HAZARDOUS

**DECOMPOSITION PRODUCTS:** Nitrogen oxides, bromine and hydrobromic acid vapors.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**TOXICOLOGICAL EFFECTS:** No data available for this product.

**LIKELY ROUTES OF EXPOSURE:** Skin, eye contact and inhalation.

**RELATED SYMPTOMS:** Inhalation: May cause irritation to respiratory system in mist/vapor form  
Ingestion: Corrosive! Swallowing causes severe burns of mouth, throat, and stomach. Severe scarring tissue, corrosion, permanent tissue destruction and death may result. Symptoms may include severe pain, nausea, vomiting, diarrhea, shock, hemorrhaging and/or fall in blood pressure. Damage may appear days after exposure. Skin: Corrosive! Contact with skin causes irritation or severe burns and scarring with greater exposures.  
Eye: Corrosive! Causes irritation of eyes, and with greater exposures it can cause burns that may result in permanent impairment of vision, even blindness.

### DELAYED/IMMEDIATE/CHRONIC EFFECTS FROM SHORT AND

**LONG TERM EXPOSURES:** Inhalation: May cause irritation to respiratory system in mist/vapor form  
Ingestion: Corrosive! Swallowing causes severe burns of mouth, throat, and stomach. Severe scarring tissue, corrosion, permanent tissue destruction and death may result. Symptoms may include severe pain, nausea, vomiting, diarrhea, shock, hemorrhaging and/or fall in blood pressure. Damage may appear days after exposure.  
Skin: Corrosive! Contact with skin causes irritation or severe burns and scarring with greater exposures.  
Eye: Corrosive! Causes irritation of eyes, and with greater exposures it can cause burns that may result in permanent impairment of vision, even blindness.  
Mutagenicity: May have mutagenic and tumorigenic effects with long term exposure.  
Carcinogenicity: No ingredients are listed as carcinogens by ACGIH, IARC, OSHA, or NTP.  
Reproductive effects: May cause reproductive effects  
Sensitization to material: Not a known sensitizer in humans or animals.  
Specific target organ effects: No information available  
Medical conditions aggravated by over exposure: No information available

### NUMERICAL MEASURES OF

**TOXICITY:** Toxicological data: The calculated ATE values for this mixture are  
ATE oral = > 5000 mg/kg  
ATE dermal = > 2000 mg/kg  
ATE inhalation (mist) = 2.85 mg/L

**CARCINOGENICITY:** None of the components of this product are listed by the NTP, IARC, or regulated by OSHA as carcinogens.

## SECTION 12 - ECOLOGICAL INFORMATION

**ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.**

**ECOTOXICITY:** May be harmful to aquatic life.

**PERSISTANCE AND DEGRADABILITY:** No data available for this product.

**BIOLOGICAL ACCUMULATION POTENTIAL:** No data available for this product.

**MOBILITY IN SOIL:** No data available for this product.

**OTHER ADVERSE EFFECTS (i.e., hazardous to the ozone layer):** No data available for this product.

#### Environmental Hazards:

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of EPA.

**BIOLOGICAL EXPOSURE INDICES:** Currently, Biological Exposure Indices (BEIs) have not been determined for the components of this product.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**DISPOSAL:** Rinse empty containers with water and use the rinse water to prepare the working solution. Refer to Section 8 for exposure controls - personal protection. P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14 - TRANSPORTATION INFORMATION

### PROPER SHIPPING NAME

**DOT:** UN1760, CORROSIVE LIQUID, N.O.S. (BROMIDE SALTS), 8, PG III  
Emergency Response Guidebook, Guide No.: 154  
Passenger Aircraft Qty: 5L  
Cargo Aircraft Qty: 60L

**IMDG/IMO:** UN1760, CORROSIVE LIQUID, N.O.S. (BROMIDE SALTS), 8, PG III

**IATA/ICAO:** UN1760, CORROSIVE LIQUID, N.O.S. (BROMIDE SALTS), 8, PG III



### ENVIRONMENTAL HAZARDS

(i.e., **MARINE POLLUTANT**): None known.

**TRANSPORT IN BULK** (according to annex II marpol 73/78 and the IBC code): Not applicable.

**SPECIAL PRECAUTIONS FOR USER:** None known.

PRODUCT REQUIRES CORROSIVE LABEL

## SECTION 15 - REGULATORY INFORMATION

### United States and International Regulations

**United States Regulations: U.S. SARA REPORTING REQUIREMENTS:** The components of this product are subject to the reporting as listed below, requirements of Sections 302, 304, and 313 of Title of the Superfund Amendments and Reauthorization Act:

#### CHEMICAL NAME

|                                     |                                                                                                                |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------|
| SULFAMIC ACID, N-BROMO, SODIUM SALT | SARA 302 (40 CFR 355, Appendix A) - NO<br>SARA 304 (40 CFR Table 302.4) - NO<br>SARA 313 (40 CFR 372.65) - NO  |
| SODIUM HYDROXIDE                    | SARA 302 (40 CFR 355, Appendix A) - NO<br>SARA 304 (40 CFR Table 302.4) - YES<br>SARA 313 (40 CFR 372.65) - NO |

### U.S. Regulations

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for the components of this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

**U.S. CERCLA REPORTABLE QUANTITY (RQ):** Sodium Hydroxide (CAS#1310-73-2) : 1000 lbs (454 kg)

**U.S. TSCA INVENTORY STATUS:** The components of this product are listed on the TSCA Inventory.

**SARA Title 311/312, Hazard Category:** Acute Health: YES; Chronic: NO; Fire: NO; Reactive: NO; Sudden Release of Pressure: NO

### FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**DANGER. CORROSIVE.** Causes irreversible eye damage. Causes skin burns. Do not get in eyes, on skin or on clothing. Wear protective eyewear such as face shield or safety glasses and rubber gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

**California Safe Drinking Water and Toxic Enforcement Act (proposition 65):** No component of this product is on the Proposition 65 list.

### International Regulations

**CANADIAN REGULATIONS:**

**CANADIAN DSL/NDSL INVENTORY STATUS:** The components of this product are on the DSL or NDSL Inventories or are exempt from listing.

**CANADIAN WHMIS CLASSIFICATION:** A component of this product has the following WHMIS classification: Sodium Hydroxide (CAS# 1310-73-2): E (corrosive).

## **SECTION 16 - OTHER INFORMATION**

**PREPARED BY: GARRATT CALLAHAN**

**DATE OF REVISION:** 9/11/2017      Supersedes: 6/11/2015

Formula 3340 is EPA-registered; with EPA Reg. No. 63838-5-8540. Refer to the approved label for details.

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