

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Directives

SECTION 1 - PRODUCT IDENTIFICATION

Product Name: FORMULA 1154
 Product Use: BOILER WATER TREATMENT
 UN NUMBER: NA
 U.N. DANGEROUS GOOD CLASS/SUBSIDIARY RISK: NA
 MANUFACTURER'S NAME: Garratt-Callahan Company
 ADDRESS: 50 Ingold Road, Burlingame, CA 94010-2206
 EMERGENCY PHONE: **CHEMTREC: 1-800-424-9300**
 BUSINESS PHONE: Product Information: 650-697-5811
 MSDS Number: SD1154
 DATE OF REVISION: 2/19/2010

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Ingredients</u> | <u>CAS#</u> | <u>HAZARDOUS</u> | <u>EC#</u> | <u>ICSC#</u> | <u>WT %</u> | <u>Classification: Risk Phrases</u> |
|------------------------------|-------------|------------------|------------|--------------|-------------|---|
| SODIUM HEXAMETAPHOSPHATE | 68915-31-1 | No | 272-803-3 | N.E. | < 25 | [Xi] Irritant R36/37/38 |
| PROPRIETARY POLYMER | MIXTURE | No | N.E. | N.E. | < 20 | NONE |

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250: 2000. See Section 3 for full text of Risk Phrases and Safety Phrases

SECTION 3 - HAZARDS IDENTIFICATION

EU LABELING AND CLASSIFICATION: This product meets the definition of the following hazard class as defined by the European Economic Community Guidelines.

EU CLASSIFICATION: [Xi] Irritant;

EU RISK PHRASES: R36/37/38: Irritating to eyes, respiratory system, and skin

EU SAFETY PHRASES: S24/25: Avoid contact with skin and eyes ; S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice;

WARNING! THIS PRODUCT IS A COLORLESS LIQUID WITH NO ODOR. CONTACT MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.

Avoid eye contact. May cause eye irritation. Avoid repeated or prolonged skin contact, inhalation of aerosol, mist, spray, fume or vapor. May cause respiratory tract and skin irritation. Wash thoroughly after handling.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

| | |
|-----------------------------------|----------|
| HEALTH HAZARD (BLUE) | 1 |
| FLAMMABILITY HAZARD (RED) | 0 |
| REACTIVITY HAZARD (YELLOW) | 0 |

Hazard Scale:
 0=Minimal
 1=Slight
 2=Moderate
 3=Serious
 4=Severe
 *=Chronic hazard



SECTION 4 - FIRST AID MEASURES

SKIN CONTACT: Wash with soap and water for at least 15 minutes; consult physician if pain, irritation or other problems per.....

EYE CONTACT: Flood the eye with copious amounts of water for at least 15 minutes. Have the patient blink as much as possible while flooding the eye. Seek medical attention if irritation occurs.

INGESTION: Treat symptomatically.

INHALATION: If affected, remove to fresh air. If not breathing, give artificial respiration.

NOTES TO PHYSICIAN: Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT: Non-flammable

AUTOIGNITION TEMPERATURE: Not established

FLAMMABLE LIMITS (in air by volume, %): Not established

FIRE EXTINGUISHING MATERIALS:

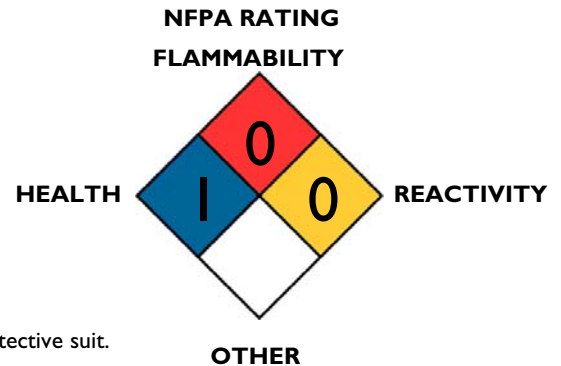
Use media appropriate for the surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

No special hazards

SPECIAL FIRE-FIGHTING PROCEDURES:

In case of fire, wear a full-face positive-pressured self contained breathing apparatus and protective suit.



SECTION 6 - ACCIDENTAL RELEASE MEASURES

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

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by appropriately trained personnel using pre-planned procedures. Proper protective equipment should be used.

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

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. Absorb with DRY earth sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas, dike if needed. Ensure that the product is not at a concentration level above TLV. 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. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations, those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations, as appropriate).

SECTION 7 - HANDLING AND STORAGE

STORAGE: Store in a cool, dry area, away from direct sunlight and any incompatible materials. Keep container closed when not in use. Protect from physical damage.

STORE AT TEMPERATURE BETWEEN 50°F-100°F.

SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use a chemical fume hood or local exhaust, and process enclosure if necessary, to control exposures. Ensure eyewash/safety shower stations are available near areas where this product is used.

EXPOSURE LIMITS/GUIDELINES:**EXPOSURE LIMITS IN AIR**

| CHEMICAL NAME | CAS# | ACGIH TLV | | OSHA PEL | | AIHA WEELS | | OTHER |
|-----------------------------|-------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------|
| | | TWA ppm | STEL ppm | TWA ppm | STEL ppm | TWA ppm | STEL ppm | |
| SODIUM HEXAMETAPHOSPHATE | 68915-31-1 | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | NONE |
| PROPRIETARY POLYMER | MIXTURE | N.E. | N.E. | N.E. | N.E. | N.E. | N.E. | NONE |

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: None needed under normal conditions of use.

Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required

EYE PROTECTION: Wear safety glasses or goggles.

If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

SKIN PROTECTION: Use chemically-resistant gloves when handling this product. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards. Use body protection appropriate for task (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------------------------|-----------------|------------------------------|-----------------|
| VAPOR DENSITY (Air=10): | Not established | EVAPORATION RATE (n-BuAc=1): | < 1 |
| SPECIFIC GRAVITY@20°C (water=1): | 1.2 - 1.3 | MELTING POINT: | NA |
| SOLUBILITY IN WATER: | Complete | BOILING POINT: | 212 °F (100 °C) |
| VAPOR PRESSURE, mm Hg @ 20°C : | Not established | pH: | 5.5 - 7.5 |
| ODOR THRESHOLD: | Odorless | | |
| APPEARANCE, ODOR and COLOR: | Clear liquid | | |

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS DECOMPOSITION: Oxides of phosphorous (under fire conditions)

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Not established

CONDITIONS TO AVOID: Freezing temperatures

SECTION 11 - TOXICOLOGICAL INFORMATION

SODIUM HEXAMETAPHOSPHATE:

ORAL RAT LD50: 3053 mg/kg

THIS PRODUCT HAS NO KNOWN OR ANTICIPATED CARCINOGENS.

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

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate:

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product will slowly degrade under ambient environmental conditions to other organic compounds.

BOD5 and COD: Material is not expected to bioaccumulate.

Environmental Toxicity:

ECOLOGICAL DATA: No Data

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and/or Japan, as appropriate.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT - NOT REGULATED
ICAO/IMDG - NOT REGULATED
IMO - NOT REGULATED

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 requirements of Sections 302, 304, and 313 of Title of the Superfund Amendments and Reauthorization Act, and are listed as follows:

CHEMICAL NAME

| | |
|--------------------------|---|
| SODIUM HEXAMETAPHOSPHATE | SARA 302 (40 CFR 355, Appendix A) NO SARA 304 (40 CFR Table 302.4) NO SARA 313 (40 CFR 372.65) NO |
|--------------------------|---|

PROPRIETARY POLYMER

U.S. Regulations:

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 MSDS 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): None

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

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

State Regulations:

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the Proposition 65 Lists.

International Regulations:

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are on the DSL or NDSL Inventories

CANADIAN WHMIS CLASSIFICATION: CLASS D; Div2 Material causing other Toxic effects (Very Toxic)

CLASS E: Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.

This material or all of its components are listed on the Canadian Domestic Substances List (DSL).

This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS). EINECS No. 272-803-3

Other Inventory Lists: Korea (TCCL), Australia (AISC), China (Draft), PICCS (Philippines-RA6969), Japan (ENCS METI/MOL).

SECTION 16 - OTHER INFORMATION

PREPARED BY: Garratt Callahan
Revision Date: February 19, 2010

APPROVED BY: Paul Eighbrett, MSDS Authoring Services
Supercedes: January 7, 2009

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