Safety Data Sheet
(MIL-A-A-59133 TYPE 2)

1 – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ..... MIL-A-A-59133 TYPE 2
CHEMICAL NAME/
CLASS/SYNONYMS: None
PRODUCT NUMBER: ..... MIL-A-A-59133 TYPE 2
UN/NA NUMBER: ..... None
CHEMICAL FAMILY: ..... Compounds, Cleaning
CAS NUMBER: ..... Not applicable for mixtures.
FORMULA: ..... Proprietary

COMPANY: ..... **JMN Specialties, Inc.**
1100 Victory Drive – Westwego, Louisiana USA 70094
Phone (504) 341-3749, Fax (504) 341-5868
www.jmnspecialties.com
EMERGENCY PHONE: ..... CALL CHEMTEL: Toll Free US & Canada: (800) 255-3924, Outside USA +01-813-248-0585.
DATE PREPARED: ..... February 28, 2019

2 – HAZARDS IDENTIFICATION

GHS HAZARD CLASSIFICATION:

Physical Hazards
Flammable Liquids: ..... . No hazard statement
Health Hazards
Acute Toxicity (Oral): ..... . Category 4 - Harmful if swallowed
Skin Corrosion/Irritation: ..... . Catagory 2 - Causes skin irritation
Serious Eye Damage/Irritation: Catagory 2A - Causes eye irritation
Aspiration Hazard: ..... . No hazard statement

WARNING LABEL ITEMS INCLUDING PRECAUTIONARY STATEMENTS:

Pictograms:

SIGNAL WORD: ..... WARNING!

GHS HAZARD AND PRECAUTIONARY STATEMENTS:

H303 H313 H333: May be harmful if swallowed, in contact with skin or if inhaled

P101+102+103: If medical advice is needed, have product container or label at hand. Keep out of the reach of children. Read label before use.
P202+270+280+281: Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

P501: Dispose of contents/container: Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

TOTAL VOC's: < 2%

3 – COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER
Sodium Metasilicate Anhydrous	54.0 - 54.5	6834-92-0
Citric Acid Monohydrate	23.5 - 26.0	5949-29-1
Citric Acid Dihydrate	20.0 - 20.5	77-92-9
Non-ionic Surfactant	1.5 - 2.5	68131-39-5

4 – FIRST-AID MEASURES

BREATHING (INHALATION): Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Seek medical attention immediately. Qualified medical personnel should consider administering oxygen.

SWALLOWING (INGESTION): Give large amounts of fresh water or milk immediately. Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head below hips to prevent aspiration. Treat symptomatically and supportively. Seek medical attention immediately.

EYES: ..... Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

SKIN (DERMAL):..... Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

NOTE TO PHYSICIAN: ..... May cause irritation/burns to the mouth, throat or stomach if swallowed. After swallowing danger of stomach perforation. On inhalation: Irritation of mucous membrane, coughing and shortness of breath. All treatments should be based on observed signs and symptoms of distress in the patient. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5 – FIRE-FIGHTING MEASURES

GENERAL FIRE HAZARDS: .... Fire fighters should wear full protective clothing, including self-contained breathing equipment.

AUTOIGNITION TEMP:..... NA

EXTINGUISHING MEDIA: Determined by surrounding material. In case of fire, use water fog, dry chemical, CO_2, or "alcohol" foam.

SPECIAL FIRE FIGHTING PROCEDURES: ..... No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Spilled product may be slippery.

UNUSUAL FIRE AND EXPLOSION HAZARDS: ..... Containers may explode from internal pressure if confined to fire. Cool with water spray.

6 – ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: ..... Wear appropriate personal protective equipment before approaching spill site. For small spills, dilute with water to sewer if allowed by local and state regulations. If unable to wash product with water, absorb with inert material (sand or other approved material) and dispose of in accordance with applicable regulations.

WASTE DISPOSAL: ..... Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA STATUS:..... If discarded in its purchased form, it is not a RCRA hazardous waste. It is the responsibility of the product user to determine at the time of disposal, whether a material containing the product should be classified as a hazardous waste. (40CFR261.20-24).

7 – HANDLING and STORAGE

STORAGE: Keep in a tightly closed container, stored in a cool, dry, ventilated area below 44°C (110°F). Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Drum must not be washed out or used for other purposes.

HANDLING:..... Avoid contact with eyes, skin and clothing. Do not inhale vapors and fumes. Wash thoroughly after handling. Use only with adequate ventilation. Do not take internally. For industrial use only.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

HAZARDOUS INGREDIENT	PEL	TLV-TWA
Sodium Metasilicate Anhydrous	None Established	None Established
Citric Acid Monohydrate	None Established	None Established
Citric Acid Dihydrate	None Established	None Established
Non-ionic Surfactant	None Established	None Established

EXPOSURE 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. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

RESPIRATORY PROTECTION: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

PROTECTIVE CLOTHING: **Eye/face protection:** Wear chemical goggles; face shield (if splashing is possible). **Skin protection:** Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron or chemical suit and chemical resistant boots are recommended.

ADDITIONAL MEASURES: Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

9 – PHYSICAL / CHEMICAL PROPERITES

BOILING POINT: Not Applicable
FREEZING POINT: NA
FLASHPOINT:..... Non-flammable material
UPPER FLAME LIMIT (%): ..... NA

LOWER FLAME LIMIT (%): ... NA
VAPOR PRESSURE:..... ND
VAPOR DENSITY (AIR=1):..... ND
SPECIFIC GRAVITY: ..... 1.80 - 2.50
pH: ..... NA
SOLUBILITY IN WATER:..... Complete
VOLATILITY
INCLUDING WATER: None
MOLECULAR WEIGHT: ..... NA
EVAPORATION RATE:..... NA
PHYSICAL STATE: ..... Granular solid
COLOR: ..... Granular White Solids
ODOR:..... Bland

10 – STABILITY and REACTIVITY

STABILITY: ..... Stable
HAZARDOUS DECOMP.:..... Will not occur
INCOMPATIBILITY: ..... Avoid direct contact with strong acids and organic materials. Contact with metals such as aluminum, magnesium, tin, and zinc may cause formation of flammable hydrogen gas. Precautions should be taken including monitoring the tank atmosphere for hazardous gases to ensure safety of personnel before vessel entry.
HAZARDOUS REACTIONS: Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

11 – TOXICOLOGICAL INFORMATION

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **ACGIH**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. **NTP**: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. **OSHA**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

THRESHOLD LIMIT VALUE:.. None Established for this Product
OSHA PEL: None
LISTED CARCINOGEN: This product IS NOT listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA.
MEDICAL CONDITION AGGRAVATED: ..... Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Respiratory system. Eyes. Skin.

INFORMATION ON ACUTE TOXICOLOGICAL EFFECTS

ORAL

Product:..... Ingestion may cause a burning sensation in the mouth, irriation of the lips, mouth, tongue and pharynx, and esophageal and abdominal pain, vomiting, nose bleeds, and bloody diarrhea.

DERMAL

Product:..... Prolonged contact with concentrated material may cause skin irritation.

INHALATION

Product: Inhalation of dusts may cause irritation of the upper respiratory tract with sore throat, coughing and shortness of breath. May cause severe irritation of the respiratory tract with coughing, choking, pain and irritation of the mucous membranes.

REPEATED DOSE TOXICITY

Product:..... No Data Available

SKIN CORROSION / IRRITATION

Product:..... Effects are dependent upon concentration and duration of exposure. Dermatitis or effects similar to those for acute exposure may occur.

SERIOUS EYE DAMAGE / IRRITATION

Product:..... Dust or mist may cause severe irritation and redness of the eyes. The full extent of the injury may not be immediately apparent.

RESPIRATORY OR SKIN SENSITIZATION

Product:..... Not expected to be sensitizing based on tests of this product, components, or similar products.

MUTAGENCITY

IN VITRO

Product:..... No Data Available

IN VIVO

Product:..... No Data Available

Specified Substance(s)	**Information as provided by manufacturer**
Sodium Metasilicate	No Data Available

CARCINOGENICITY

Product:..... This product is not classified as a carcinogen by NTP, IARC or OSHA.

REPODUCTIVE TOXICITY

Product:..... Based on available data the classification criteria are not met. Not classified as hazardous.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE

Product: **GENERAL:** Dusts or particles may be irritating to skin, eyes, or mucous membranes. **INHALATION:** Inhalation of dusts or particles may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing. Headache, nausea, vomiting, dizziness, and drowsiness may occur. **EYES:** May cause slight to severe irritation experienced as discomfort or pain, excess tear production, with possible redness and swelling of the conjunctiva. **SKIN:** Brief contact may cause slight irritation with itching and local redness. Prolonged contact may cause more severe irritation, with discomfort or pain. **SWALLOWING:** May cause headache, dizziness, nausea, vomiting, diarrhea, and general weakness.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE

Product:..... May cause irriatation to the lungs, gastrointestinal tract, upper respiratory tract, skin, eyes. Contains material which may cause damage to the eye, lens or cornea, and the irritation to the stomach if swallowed.

ASPIRATION HAZARD

Product:..... Droplets of the product aspirated into the lungs through ingestion or vomiting may cause chemical pneumonia.

OTHER ADVERSE EFFECTS

Product:..... The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12 – ECOLOGICAL INFORMATION

ACUTE TOXICITY

FISH

Product:..... 96hr LC50 (rainbow trout): >100 mg/L (based on similar products / components)

AQUATIC INVERTEBRATES

Product:..... 48hr EC50 (Daphnia magna): >100 mg/L (based on similar products / components)

CHRONIC TOXICITY

FISH

Product:..... Not determined. Keep product out of sewers and waterways.

AQUATIC INVERTEBRATES

Product:..... Not determined. Keep product out of sewers and waterways.

TOXICITY TO AQUATIC PLANTS

Product:..... The product may affect the acidity or alkalinity (pH-factor) in water with risk of harmful effects to aquatic plants.

PERSISTENCE AND DEGRADABILITY

BIODEGRADATION

Product:..... 54% of his material is inorganic and not subject to biodegradation. The balance of the mixture biodegradability under aerobic static laboratory conditions is high (BOD20 or BOD28 / THOD greater than 89%). Ecotoxicity is based largely or completely on data for major component(s). Material is practically non-toxic to aquatic organisms on an acute basis (LC50 is greater than 100 mg/l in most sensitive species).

BIOLOGICAL OXYGEN DEMAND

Product:..... No data available

CHEMICAL OXYGEN DEMAND

Product:..... No data available

BOD / COD RATIO

Product:..... No data available

BIOACCUMULATIVE POTENTIAL

Product:..... This product will not bioaccumulate due to its high solubility in water. It is considered slightly toxic to aquatic organisms unless there is a significant pH shift outside the range of 5 – 10; this change may be toxic to aquatic organisms.

MOBILITY IN SOIL

Product:..... Expected to partition to water. The pH effect of this product in water is naturally reduced by the absorption of atmospheric carbon dioxide. This reduction is also effected by dilution with water and by the natural acidity of a given water body. There is no degradation of the inorganic material in waters, only loss by absorption or through chemical neutralization.

RESULTS OF PBT AND mPvB ASSESSMENT

Product:..... Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Not fulfilling vPvB (very persistent, very bioaccumulative) criteria.

OTHER ADVERSE EFFECTS

Product: ..... No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13 –DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: ..... Treatment, storage, transportation and disposal must be in accordance with Federal, State/Provincial and Local Regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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14 – TRANSPORTATION INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

UN/NA NUMBER: ..... None
PROPER SHIPPING NAME: Non-Regulated
HAZARD CLASS:..... None
PACKAGING GROUP :..... None
LETTER:..... None
ENVIRONMENTAL HAZARD: This product is not expected to bioaccumulate due to its high solubility in water. It is considered slightly toxic to aquatic organisms unless there is a significant pH shift outside the range of 5 – 10, which may be toxic to aquatic organisms.
REPORTABLE QUANTITY: None

15 - REGULATIONS

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements and the International Chemical Safety Cards of the Global Harmonizing System. This SDS complies with 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD). **IMPORTANT:** Read this SDS before handling & disposing of this product. Pass this information on to employees, customers, & users of this product.

EPA SRA Title III Chemical Listings:

TSCA STATUS:..... This product is listed on the TSCA inventory. If this product is a blend, all ingredients in the product are listed on the TSCA Inventory List. Any impurities present in this product are exempt from listing.
SECTION 302:..... None
SECTION 304:..... None
SECTION 312: None
SARA SECTION 313: None
ACUTE:..... Yes (Eyes)
CHRONIC: ..... No
FIRE: ..... No
PRESSURE:..... No
REACTIVE:..... No
CLEAN WATER ACT: ..... None

IMDG – International Marine Dangerous Goods Code
Class Non Regulated - Possible Shipping Description(s): Non Regulated
IATA
Class Non Regulated - Possible Shipping Description(s): Non Regulated

DEA Chemical Trafficking Act:.. No

16 – OTHER INFORMATION

HMIS*

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	B

HMIS®HAZARD INDEX: 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard.
HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS and product label must be considered.

ND = No Data, NA = Not Applicable/Not Available, ≤ = Less than or equal to, ≥ = Greater than or equal to

REVISION STATEMENT: Changes have been made throughout this Safety Data Sheet (SDS). Please read the entire document. Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) by the Company Health and Risk Assessment Unit.

DISCLAIMER:
Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, the Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving this Safety Data Sheet (SDS) will make their own determination as to its suitability for their intended purposes prior to use. Since the product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of this product. Such conditions should comply with all Federal and State Regulations concerning the Product. It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. **NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.**

*****This is the last page of this SDS*****