MSDS No. 1001
Rev. Date: 3/8/2021

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product. This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accordance with the MSDS requirements of the rule.

SAFETY DATA SHEET

SECTION I: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

A. COMPANY IDENTIFICATION

SPECIALTY CHEMICAL SYSTEMS (HECTRIO)
243 SHOEMAKER ROAD
POTTSTOWN, PA 19464

EMERGENCY PHONE NUMBERS
BUSINESS HOURS : (484) 624-8353
CHEMTREC - 24 Hours a day, 7 days/week:
(800) 424-9300
RESIDENCE: (610) 469-6550

B. PRODUCT IDENTIFICATION

PRODUCT NAME:	STANNOUS METHANESULFONATE SOLUTION 300g/l
CAS NO:	53408-94-9
CHEMICAL NAME:	STANNOUS METHANESULFONATE
MOLECULAR FORMULA:	$C_2H_6O_6S_2Sn$
SYNONYMS:	TIN MSA SOLUTION; STANNOUS MESYLATE SOLUTION; ALKANE SULFONIC ACID, TIN SALT; METHANE SULFONIC ACID, TIN SALT; NF TIN CONCENTRATE STANNOUS METHANE SULFONATE
CHEMICAL FAMILY:	SULFONIC ACID, TIN SALT

SECTION II: SUMMARY OF HAZARDS

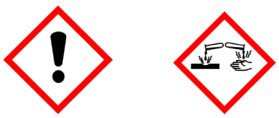
EMERGENCY OVERVIEW

OSHA Hazards
Harmful by ingestion, Skin sensitizer, Corrosive

GHS Classification
Skin Corrosion (Category 1B)
Serious eye damage (Category 1)
Acute Toxicity, Oral (Category 4)
Skin Sensitization (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301	Toxic if swallowed
H314	Causes severe burns and eye damage
H317	May cause an allergic skin reaction

Precautionary statement(s)

P280	Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. continue rinseing.
P310	Immediately call a POISON CENTER or doctor/physician

HMIS Classification

Health Hazard:	**3**
Flammability:	**0**
Physical Hazards:	**0**

NFPA Rating

Health Hazard:	**3**
Fire	**0**
Reactivity Hazard	**0**

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	Harmful if swallowed

SECTION III: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS-----HAZARD CLASSIFICATIONS

Component		Classification	Concentration
Stannous Methane Sulfonate			
CAS-No EC-No. Index-No.	53408-94-9 401-640-7 050-018-008	Acute Tox. 4; Skin Corr. 1B; Skin Sens. 1; Aquatic Chronic 2; H302, H314, H317, H411	30-60 %

SECTION IV: FIRST AID MEASURES

GENERAL ADVICE

Consult a Physician. Provide this safety data sheet to medical personnel. Remove from dangerous area.

IF IN EYES OR ON SKIN:

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Contact a Poison Control Center. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED:

Do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION V: FIRE FIGHTING MEASURES

FIRE AND EXPLOSION DATA

FLASH POINT: NO FLASH POINT
FLAMMABLE LIMITS: LOWER: NA, UPPER: NA
AUTOIGNITION TEMP.: NA

EXTINGUISHING MEDIA:

Same as for surrounding materials. Use in flooding quantities as fog.

SPECIAL FIRE FIGHTING PROCEDURES:

Wear self-contained breathing apparatus if fighting fires near this product due to toxicity of thermal decomposition products and corrosive nature of fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Corrosive fumes and vapors may develop if product is exposed to elevated temperatures.

HAZARDOUS COMBUSTION PRODUCTS

Hazardous decomposition products fromed under fire conditions- Carbon Oxides, Sulpher Oxides, Tin/Tin Oxides.

SECTION VI: ACCIDENTAL RELEASE MEASURES

SPILL MANAGEMENT

Neutralize
Prevent spread of spill do not let product enter drains.

Dike to prevent spread of spill. Dilute with water to twice the volume and neutralize with soda ash or lime. Then dispose in accordance with local, state, or federal regulations.

CAUTION: spattering may occur. Wear protective gear listed under special protection information.

SECTION VII: HANDLING AND STORAGE

HANDLING:

Do not get in eyes, on skin or on clothing.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Do not taste or swallow.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.
Do not add water to acid while in container because heat release may cause spattering. If dilution is necessary add acid to water.
Never use pressure to empty drum.
Rinse emptied container with plenty of water before discarding.

STORAGE:

Material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage.

SECTION VIII: EXPOSURE CONTROL/PERSONAL PROTECTION

Components	CSA-No.	Value	Control Parameters	Basis
Stannous Methanesulfonate	53408-94-9	TWA	2 mg/m3	USA. Occupational Exposure Limits (OSHA)-Table Z-1 Limits for Air Contaminants
		TWA	2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Upper Respiratory Tract Irritation Headache Pneumoconiosis Nausea Varies			
		TWA	2 mg/m3	USA. NIOSH Reccomended Exposure Limits
		TWA	2 mg/m3	USA. OSHA-Table Z-1 Limits for Air Contaminants 1910.1000

ENGINEERING CONTROLS:

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposure. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual of NFPA Standard 91 for design for exhaust systems.

EYE PROTECTION:

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

SKIN PROTECTION:

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Neoprene or PVC gloves should be worn when handling this material. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

RESPIRATORY PROTECTION:

Avoid breathing vapor. Use NIOSH/MSHA approved respiratory protection equipment appropriate to the material and/or its components where airborne exposure is likely. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR 1910.134.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

BOILING POINT/RANGE:	MELTING POINT:	FREEZING POINT:
>212°F	- 27 C (-17 F)	NE
MOLECULAR WEIGHT:	**SPECIFIC GRAVITY (H_2O=1):**	**VAPOR PRESSURE (MMHG):**
308.9 CALCULATED	1.25 - 1.62 @ 20°C	UNAVAILABLE
VAPOR DENSITY (AIR=1):	**SOLUBILITY IN H_2O:**	**% VOLATILES BY VOLUME:**
Na	Completely miscible	Essentially non-volatile

APPEARANCE AND ODOR:
From water white to pale yellow liquid: none to faint SO_3 odor.

SECTION X: STABILITY AND REACTIVITY

STABILITY: STABLE

CONDITIONS CONTRIBUTING TO INSTABILITY: Stable
CONDITIONS TO AVOID: Excess heat

INCOMPATIBILITY - AVOID CONTACT WITH:
Strong alkalis, (heat release or spattering may occur), water reactive materials, cyanides.

HAZARDOUS DECOMPOSITION THERMAL AND OTHER:
Combustion products include carbon monoxide. Carbon dioxide. Sulfur dioxide and sulfur trioxide (thermal). Tin/tin oxides

SECTION XI: TOXICOLOGICAL INFORMATION:

ACUTE TOXICITY
For Methane Sulfonic Acid only. No data for Stannous Methane Sulfonate known.
Single exposure (acute) studies indicate:
Oral - Slightly Toxic to Rats (LD50 1,158 mg/kg)
Dermal - No More Than Moderately Toxic to Rabbits (LD50 > 200 mg/kg with 10% MSA;
< 2,000 mg/kg with undiluted MSA)
Eye Irritation - Corrosive to Rabbits
Skin Irritation - Corrosive to Rabbits

No skin allergy was observed in guinea pigs following repeated skin exposure. No adverse effects on liver and kidney weights or gross pathology were reported in rats fed MSA for 7 days at dosages up to 2000 mg/kg. Repeated exposures by inhalation produced severe signs of irritation in the noses of rats at all exposure levels with partial recovery noted after two weeks of no exposure. At higher exposure levels, decreased body weights, clinical signs of irritation and mortality were noted. No effects were noted in the offspring of rats given MSA orally during pregnancy. MSA has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells. Following intraperitoneal injection of radiolabelled MSA to rats, the radiolabel was rapidly eliminated (100%) in the urine.

GERM CELL MUTAGENICITY
No data available

Carcinogenicity
IARC: No Component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
NTP: No Component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential 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.
Reproductive Toxicity
No Data Available

Teratogenicity
No Data Available

Target organ effects-
No Data Available

Aspiration hazard
No Data Available

TLV FOR TIN IN TIN INORGANIC COMPOUNDS IS 2.0 MG/M^3, FOR 8 HOUR DAY/40 HOUR WEEK.

Chronic toxicity: There are no chronic toxicity studies available for stannous methane sulfonate or methane sulfonic acid. Stannous methane sulfonate is an inorganic tin compound (tin-oxygen bonds). Chronic overexposure to inorganic tin compounds has resulted in stannosis, a benign pneumoconiosis. Chronic overexposure has not been associated with progressive fibrosis or decreased pulmonary function. Stannosis has not been associated with illness or decreased life expectancy.

SECTION XII: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION FOR METHANE SULFONIC ACID

Ecotoxicological Information:

24-hr EC50 Daphnia magna: 1.7 mg/l, Moderately Toxic

96-hr LC50 Guppy (static with neutralized MSA): > 770 mg/l,

Practically Non-toxic

96-hr LC50 Guppy (static with neutralized 70% MSA): > 1,110 mg/l,

Practically Non-toxic

Acute Oral LD50 Coturnix Quail: 1,000 mg/kg

Reduced egg fertility was noted after male coturnix quail were administered MSA in a single oral dose of 421 mg/kg and evaluated for their ability to produce fertile eggs upon mating.

Chemical Fate Information:

MSA is considered readily biodegradable based on OECD 303 A, OECD 301D Closed Bottle, OECD 301A DOC Die-Away, and BOD testing.

SECTION XIII: DISPOSAL CONSIDERATIONS

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with afterburner and scrubber.

Consult Federal, State or Local authorities for proper disposal procedures.

SECTION XIV: TRANSPORT INFORMATION

INTERNATIONAL SHIPPING INFORMATION:

DOT (US)

UN Number: 3265 Class: 8 Packing Group: II
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(Stannous Methane Sulfonate, Alkyl Sulfonic Acid)
Reportable Quantity (RQ): NO
Marine Pollutant: NO
Poison Inhalation Hazard: NO

IMDG

UN Number: 3265 Class: 8 Packing Group: II EMS-No. F-A, S-B
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(Stannous Methane Sulfonate, Alkyl Sulfonic Acid)
Marine Pollutant: NO

IATA

UN Number: 3265 Class: 8 Packing Group: II
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(Stannous Methane Sulfonate, Alkyl Sulfonic Acid)

SECTION XV: REGULATORY INFORMATION

OSHA HAZARDS
Harmful by Ingestion, Skin Sensitiser, Corrosive

SARA 302 Components
This product does not contain greater than 1.0% of any chemical substance on the SARA extremely hazardous substance list.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (DeMinimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right to know Components
No components are subject to the Massachusetts right to know act.

Pennsylvania Right to know Components

Water	7732-18-5
Stannous Methanesulfonate	53408-94-9

New Jersey Right to know Components

Water	7732-18-5
Stannous Methanesulfonate	53408-94-9

California Prop. 65 Components
This product does not contain any chemicals known to the state of California to cause cancer, birth defects, or any other reproductive harm

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECT 313. ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY. REPORTABLE QUANTITY (RQ) LBS: N/A. **CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65 -** BASED ON INFORMATION CURRENTLY AVAILABLE, THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY CHEMICALS CURRENTLY LISTED AS CARCINOGENS OR REPRODUCTIVE TOXINS UNDER CALIFORNIA PROPOSITION 65 AT LEVELS WHICH WOULD BE SUBJECT TO THE PROPOSITION. IF YOU

REFORMULATE OR FURTHER PROCESS THIS PRODUCT. YOU SHOULD FURTHER EVALUATE THIS PRODUCT BASED UPON SUCH REFORMULATION OR PROCESSING, AS WELL AS UPON ITS FINAL COMPOSITION AND USE.

SECTION XVI: OTHER

Legend
N/A - Not Applicable
NE - Not Established
Acute Tox.- Acute Toxicity
Aquatic Chronic- Chronic Aquatic Toxicity
H302- Harmful if swallowed
H314- Causes severe skin burns and eye damage
H317- May cause an allergic skin reaction
H411- Toxic to aquatic life with long lasting effects
Skin Corr.- Skin corrosion
Skin Sens.- Skin Sensitization

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, HECTRIO MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH THE RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.