Arch Chemicals, Inc.

MATERIAL SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **TRIADINE® 20 INDUSTRIAL MICROBIOSTAT**
EPA Registration Number: 1258-1205

1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc.
501 Merritt 7 PO Box 5204
Norwalk, CT 06856-5204

REVISION DATE:	06/24/2010
SUPERCEDES:	04/21/2009
MSDS Number:	100000000118
SYNONYMS:	None
CHEMICAL FAMILY:	Mixture
DESCRIPTION / USE	Industrial biocide
FORMULA:	None established

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	**Corrosive to eyes, Mild skin irritant, Toxic by inhalation.**

Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known interactions
Medical Conditions Aggravated:	Dermatitis may be aggravated following exposure.

Human Threshold Response Data

Odor Threshold	Not established for product.
Irritation Threshold	Not established for product.

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	3	0	0	
NFPA	3	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Harmful if inhaled. Moderately toxic by inhalation. High concentrations are moderately irritating to the eyes, nose, throat, and lungs.
Skin Toxicity:	Skin contact may cause minor irritation consisting of transient redness and/or swelling. May be absorbed through skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive.
Eye Toxicity:	Severe irritation and/or burns can occur following exposure. Direct contact may cause impairment of vision and corneal damage. Rinsing of the eye should take place immediately.
Ingestion Toxicity:	Harmful if swallowed. Moderately toxic if swallowed. Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting or diarrhea.
Acute Target Organ Toxicity:	Corrosive to the eyes and mildly irritating to the skin., Moderate respiratory irritant

Prolonged (Chronic) Health Effects

Carcinogenicity:	This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.
Reproductive and Developmental Toxicity:	No reproductive or developmental risk to humans is expected from exposure to this product.
Inhalation:	There are no known or reported effects from chronic exposure except for effects similar to those experienced from acute exposure.
Skin Contact:	There are no known or reported effects from chronic exposure except for effects (if any) similar to those experienced from acute exposure.
Skin Absorption:	May be absorbed through skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive.
Ingestion:	There are no known or reported effects from chronic exposure except for effects similar to those experienced from acute exposure.
Sensitization:	This material tested negative for skin sensitization in humans. This product contains residual amounts of formaldehyde. Those individuals who are sensitive to the effects of formaldehyde may experience an allergic skin reaction to this product.
Chronic Target Organ Toxicity:	Product is expected to have the following target organ effects:, Eyes, Skin

Supplemental Health Hazard Information :	This product may release formaldehyde during use. Formaldehyde is listed by IARC as a human carcinogen (Group 1 substance). In vitro mutagenicity tests did not reveal any adverse effects. Repeat exposure animal studies did not reveal any unusual effects. The only effect noted was due to the irritant nature of this product.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	4719-04-4	68 - 75
Sodium Pyrithione	3811-73-2	1 - 5
Water	7732-18-5	20 - 28

4. FIRST AID MEASURES

General Advice:	Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
Inhalation:	IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Skin Contact:	IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Eye Contact:	IF IN 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.
Ingestion:	IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA):	Product is not known to be flammable, combustible, pyrophoric or explosive.
Flammable Properties	
Flash Point:	Not applicable
Autoignition Temperature:	No data.
Fire / Explosion Hazards:	Material will not ignite or burn. This material is not expected to burn unless all the water is boiled away. The remaining compounds may be ignitable.
Extinguishing Media:	Not Applicable. - Choose extinguishing media suitable for surrounding materials.
Fire Fighting Instructions:	In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water to cool containers.
Hazardous Combustion Products:	Oxides of nitrogen
Upper Flammable / Explosive Limit, % in air:	Not Applicable/Mixture
Lower Flammable / Explosive Limit, % in air:	Not Applicable/Mixture

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.
Spill Mitigation Procedures	
Air Release:	Vapors may be suppressed by the use of water fog. Contain all liquid for treatment or neutralization.
Water Release:	This material is soluble in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so. Continue to handle as described in land spill.
Land Release:	Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Contain all liquids for treatment or disposal.
Additional Spill Information :	Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

7. HANDLING AND STORAGE

Handling:	Avoid breathing mist or vapor.Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing vapor or mist. Keep container closed.
Storage:	Store in a cool, dry place. Isolate from incompatible materials. Do not expose to direct light.Store in a cool, dry place. Isolate from incompatible materials. Avoid direct exposure to sunlight or ultraviolet (UV) light sources.
Shelf Life Limitations:	One year minimum if stored in the original container in a cool, dry place.
Incompatible Materials for Storage:	Refer to Section 10, "Incompatible Materials."concentrated acids Strong oxidizing agents
Do Not Store At temperatures Above:	50 DEG°C / 122 DEG°F

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection :	Wear a NIOSH approved respirator if any exposure occurs.
Respirator Type :	A NIOSH approved full-face air purifying respirator equipped with a combination organic vapor/formaldehyde/P100 filter cartridge. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.
Skin Protection :	Wear impervious gloves to avoid skin contact.
Eye Protection:	Use chemical goggles.
Protective Clothing Type:	Impervious
General Protective Measures:	Emergency eyewash should be provided in the immediate work area.

Exposure Limit Data

CHEMICAL NAME	CAS #	Name of Limit	Exposure
Sodium Pyrithione	3811-73-2	ARCH-ROEG*	0.35 mg/m3 TWA

*ARCH-ROEG: Arch Recommended Occupational Exposure Guideline.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	liquid
Color:	amber, clear
Odor:	mild, Amine
Molecular Weight:	Not Applicable/Mixture
Specific Gravity :	1.17
pH :	9.5 - 11.0
Boiling Point:	102 DEG°C / 215 DEG°F
Freezing Point:	-36 DEG°C / -32 DEG°F
Melting Point:	No data
Density:	9.75lb/gal (@ 25 Deg. C)
Vapor Pressure:	10.9 mmHg (@ 25 Deg. C)
Vapor Density:	No data
Viscosity:	No data
Fat Solubility:	No data
Solubility in Water:	complete; 100%
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	<1.00 (water = 1)
Oxidizing:	No data
Volatiles, % by vol.:	25%
VOC Content	Not applicable
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions. This product may become unstable at elevated temperatures after the removal of water. Not sensitive to mechanical shock. Not sensitive to static discharge. Decomposes slowly. Product will not undergo hazardous polymerization.
Conditions to Avoid:	Avoid direct exposure to sunlight or ultraviolet (UV) light sources., High temperatures
Chemical Incompatibility:	Strong oxidizing agents, concentrated acids
Hazardous Decomposition Products:	Formaldehyde, Carbon monoxide, Carbon dioxide, Oxides of nitrogen
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:

1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	LD50 = 763 mg/kg Rat
Sodium Pyrithione	LD50 = 750 mg/kg Rat

Component Animal Toxicology
Dermal LD50 value:

1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	LD50 > 2,000 mg/kg Rabbit
Sodium Pyrithione	LD50 = 700 mg/kg Rabbit

Component Animal Toxicology
Inhalation LC50 value:

1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	No data
Sodium Pyrithione	Inhalation LC50 4 h = 1.1 MG/L Rat

Product Animal Toxicity

Oral LD50 value:	LD50 800 mg/kg rat
Dermal LD50 value:	LD50 > 2,000 mg/kg rabbit
Inhalation LC50 value:	LC50 4 h (Nose Only), (aerosol) = 0.87 MG/L rat LC50 1 h (Nose Only), (aerosol) = 3.5 MG/L rat

Skin Irritation:	This material is expected to be slightly irritating.
Eye Irritation:	Corrosive to eyes.
Skin Sensitization:	Negative skin sensitizer, guinea pig - Buehler Method
Acute Toxicity:	Moderately toxic if swallowed.Moderately toxic by inhalation.Corrosive to the eyes and mildly irritating to the skin.Moderate respiratory irritant
Subchronic / Chronic Toxicity:	Prolonged or repeated exposure may cause more severe irritation.

Reproductive and Developmental Toxicity:	This material has been tested in laboratory animals and no evidence of teratogenicity or embryotoxicity was seen.
Sodium Pyrithione	This chemical is not considered to be a reproductive or developmental hazard. However, this material when tested in laboratory animals at maternally toxic doses only was found to cause developmental and/or reproductive toxicity.

Mutagenicity: Not known or reported to be mutagenic. A similarly structured compound was tested and was found to be non-mutagenic in a battery of mutagenicity/genotoxicity assays.

1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	This product has been shown to be non-mutagenic based on a battery of assays.
Sodium Pyrithione	This product has been shown to be non-mutagenic based on a battery of assays.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL	This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.
Sodium Pyrithione	Sodium Omadine was administered orally and dermally to laboratory animals and was found not to induce tumor formation as compared to control animals.

12. ECOLOGICAL INFORMATION

Overview: Slightly toxic to fish and other aquatic organisms., Aquatic toxicity data presented is for a structurally similar compound.

Product Ecological Toxicity Values

Bluegill	-	(nominal, static). 96.0 h LC50 77 mg/l
Rainbow trout (Salmo gairdneri),	-	(nominal, static). 96.0 h LC50 42 mg/l
Channel Catfish (Ictalurus punctatus rafinesque),	-	(nominal, static). 96.0 h LC50 36 mg/l
Daphnia magna,	-	(nominal, static). 48.0 h LC50 5.4 mg/l

Ecological Toxicity Values for: **1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL**

Rainbow trout (Salmo gairdneri),	-	(measured, flow-through) 96.0 h LC50 > 119 mg/l
Sheepshead minnow	-	(measured, flow-through) 96 h LC50 > 118 mg/l
Daphnia magna,	-	48 h LC50= 26.1 mg/l
Mysid shrimp	-	(measured, flow-through) 96 h LC50= 12 mg/l
Northern bobwhite quail	-	Dietary LC50 > 5,620 ppm
Northern bobwhite quail	-	acute oral LD50 = 1,520 mg/kg

Ecological Toxicity Values for: **Sodium Pyrithione**

Rainbow trout (Salmo gairdneri),	-	(measured, static) 96 h LC50 = 0.0066 - 0.008 mg/l (40% aqueous Sodium Omadine)

Bluegill	-	(measured, static) 96 h LC50 = 7.6 - 9.6 mg/l (40% aqueous Sodium Omadine)
Daphnia magna,	-	(nominal, static). 48 h LC50= 0.022 mg/l (40% aqueous Sodium Omadine)
Bobwhite quail	-	acute oral LD50 = 441 mg/kg (40% aqueous Sodium Omadine)
Bobwhite quail	-	8 DAYS dietary LC50 = 3,075 ppm (40% aqueous Sodium Omadine)
Mallard duck	-	8 DAYS dietary LC50 = 10,033 ppm (40% aqueous Sodium Omadine)
Bobwhite quail	-	acute oral LD50 = 200 mg/kg (94.9% aqueous Sodium Omadine)
Mallard duck	-	acute oral LD50 = 92 mg/kg (94.9% aqueous Sodium Omadine)

13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary :	Spent or discarded material is not expected to be a hazardous waste.
Disposal Methods :	As a nonhazardous waste, it should be disposed of in accordance with local, state and federal regulations.
Potential US EPA Waste Codes :	Not applicable

14. TRANSPORT INFORMATION

Land (US DOT):	UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SODIUM PYRITHIONE) 9 III
Water (IMDG):	UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (SODIUM PYRITHIONE) 9 III MARINE POLLUTANT
	Flash Point: Not applicable
Air (IATA):	UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (SODIUM PYRITHIONE) 9 III

Emergency Response Guide Number:	ERG # 171
Transportation Notes**:**	Inhalation is not a normal route of absorption relative to transportation. Material is not regulated for ground transportation within the US if shipped in non-bulk packages. Material is not regulated as a marine pollutant for ground, rail car, or aircraft transportation within the USA if shipped in non bulk packages per marine pollutant exception 49 CFR 171.4(c).
EMS:	F-A, S-F

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA):	The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.
EPA Pesticide Registration Number:	1258-1205
FIFRA Listing of Pesticide Chemicals (40 CFR 180):	This product is regulated under the Federal Insecticide, Fungicide and Rodenticide Act. It must be used for purposes consistent with its labeling.

Superfund Amendments and Reauthorization Act (SARA) Title III:

Hazard Categories Sections 311 / 312 (40 CFR 370.2):

Health	Immediate (Acute) Health Hazard
Physical	None

Emergency Planning & Community Right to Know (40 CFR 355, App. A):

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

ZUS_SAR302	TPQ (threshold planning quantity)	None established

Reportable Quantity (49 CFR 172.101, Appendix):

ZUS_CERCLA	Reportable quantity	None established
ZUS_SAR302	Reportable quantity	None established

Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components

ZUS_SAR313	De minimis concentration	None established

Clean Air Act Toxic ARP Section 112r:

CAA 112R	None established

Clean Air Act Socmi:

HON SOC	None established

Clean Air Act VOC Section 111:

CAA 111	None established

Clean Air Act Haz. Air Pollutants Section 112:

ZUS_CAAHAP	None established
ZUS_CAAHRP	None established
CAA AP	None established

State Right-to-Know Regulations Status of Ingredients

Pennsylvania:

CAS #	COMPONENT NAME
50-00-0	FORMALDEHYDE

ZUSPA_RTK

Pennsylvania: Hazardous substance list
1989-08-11
FORMALDEHYDE
Environmental hazard, Special hazardous substance

New Jersey:

CAS #	COMPONENT NAME
50-00-0	FORMALDEHYDE

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)
2007-03-01
FORMALDEHYDE METHYL ALDEHYDE FORMALIN
Special Health Hazard - Carcinogen, Special Health Hazard - Corrosive, Special Health Hazard - Flammable - Fourth Degree, Special Health Hazard - Mutagen

Massachusetts:

CAS #	COMPONENT NAME
50-00-0	FORMALDEHYDE

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications
1993-04-24

FORMALDEHYDE FORMALIN
Carcinogen, Extraordinarily hazardous

California Proposition 65:

CAS #	COMPONENT NAME

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)
2007-08-24
Threshold limits: 0.1 Weight percent
918
Formaldehyde

16. OTHER INFORMATION

MSDS REVISION STATUS :
SECTIONS REVISED: 14
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .