



Arch Chemicals, Inc.

**MATERIAL  
SAFETY DATA**

FOR ANY EMERGENCY, CALL 24HOURS/ 7 DAYS:	<b>1-800-654-6911</b>
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC(R):	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS

PRODUCT NAME: **TRIADINE® 20 INDUSTRIAL MICROBIOSTAT**

**1. PRODUCT AND COMPANY IDENTIFICATION**

REVISION DATE: 01-10-2005  
SUPERCEDES: 01-09-2005  
MSDS NO: 01065-0003 - 100072  
SYNONYMS: 1,3,5-tris(hydroxyethyl)-s-triazine - (Active ingredient)  
CHEMICAL FAMILY: Mixture  
DESCRIPTION / USE: Bactericide-fungicide Industrial biocide  
FORMULA: Not applicable/Mixture

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

**2. 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
Water	7732-18-5	20 - 28
2-Pyridinethiol, 1-oxide, sodium salt	3811-73-2	1 - 5

**3. HAZARDS IDENTIFICATION**

**OSHA Hazard Classification: corrosive to eyes, skin irritant**

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  
Irritation Threshold: Not established

Hazardous Materials Identification System/National Fire Protection Association Classifications

<u>Hazard Ratings:</u>	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
HMIS	3	0	0
NFPA	Not established		

Immediate (Acute) Health Effects

Inhalation Toxicity: Moderately toxic by inhalation.  
Inhalation Irritation: High concentrations are moderately irritating to the eyes, nose, throat, and lungs.  
Skin Contact: Skin contact may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not be expected to result in permanent damage. Prolonged exposure may cause scab formation.  
Skin Absorption: May be absorbed through skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive.  
Eye Contact: 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 Irritation: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy or diarrhea.  
Ingestion Toxicity: Moderately toxic if swallowed.

Acute Target Organ Toxicity: Respiratory Tract, Eyes, Skin

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. Sodium Omadine was administered orally and dermally to laboratory animals and was found not to induce tumor formation as compared to control animals.  
Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.  
Sensitization: Negative in Human Repeat Insult Patch test 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.  
Inhalation: Prolonged or repeated exposure may cause more severe irritation.  
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 ingestion except for effects similar to those experienced from single exposure.

Chronic Target Organ Toxicity: Eyes, Respiratory Tract

Supplemental Health Hazard Information: This product may release formaldehyde during use. Formaldehyde is listed by IARC as a probable human carcinogen. 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.

#### **4. FIRST AID MEASURES**

---

Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult.

Skin Contact: IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention.

Eyes: IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Call a physician immediately.

Ingestion: IF SWALLOWED: Immediately drink water to dilute. Consult a physician if symptoms develop. Never 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: Not applicable

Upper Flammable/Explosive Limit, % in air: Not applicable

Lower Flammable/Explosive Limit, % in air: Not applicable

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 including a NIOSH approved self-contained breathing apparatus (SCBA). Use water to cool containers.

Hazardous Combustion Products: oxides of nitrogen, Formaldehyde, Carbon monoxide, Carbon dioxide

#### **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: Divert water flow around spill if possible and safe to do so. Notify all downstream users of possible contamination. Continue to handle as described in land spill.

Land Release: Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container.

Additional Spill Information: Evacuate all non-essential personnel. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

## **7. HANDLING AND STORAGE**

---

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.

Storage: Store in a cool, dry place. Isolate from incompatible materials. Do not expose to direct light.

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."

Do Not Store At temperatures Above: 122 Deg. F. 50 Deg. C.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

Ventilation: Local exhaust ventilation or other engineering controls are necessary when handling or using this product.

### Protective Equipment for Routine Use of Product

Respiratory Protection: Wear a NIOSH approved respirator if any exposure occurs.

Respirator Type(s): As a minimum a NIOSH approved full-face respirator equipped with formaldehyde cartridges.

Skin: Avoid skin contact by wearing gloves, an apron and other protective equipment. Wash hands and other exposed areas thoroughly with soap and water immediately after any contact. A safety shower should be provided in the immediate work area.

Eyes: Use chemical goggles and a faceshield. Emergency eyewash should be provided in the immediate work area.

Protective Clothing Type: Impervious

### Exposure Limit Data

CHEMICAL NAME	CAS #	OSHA PEL / STEL	ACGIH LIMITS	AIHA WEEL
1,3,5-triazine-1,3,5-(2H,4H,6H)-triethanol	4719-04-4	None established	None established	Not Established
2-Pyridinethiol, 1-oxide, sodium salt	3811-73-2	None established	None established	Not Established

2-Pyridinethiol, 1-oxide, sodium salt: Arch internal standard: 0.35 mg/cubic meter (TWA); MAK: 1mg/cubic meter (TWA)

CHEMICAL NAME NIOSH Immediately Dangerous to Life or Health:  
The IDLH has not been established for this product.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

---

Physical State: liquid  
Color: pale amber

Odor	mild amine
Molecular Weight:	Not Applicable/Mixture
pH	10 - 11.5 (10% solution in neutral, distilled water)
Octanol/Water Coeff:	No data
Solubility in Water:	Completely miscible
Bulk Density:	1.17 g/cc
Specific Gravity:	1.17
Vapor Density:	No data
Vapor Pressure:	(@ 25 Deg. C) Estimated 10.9 mmHg
Evaporation Rate:	< 1.00 (water = 1)
Boiling Point:	102 Deg. C. 216 Deg. F.
Freezing Point:	- 36 Deg. C. - 33 Deg. F.
Volatiles, % by vol.:	25 %
VOC Content % w/w / lbs/gal:	Not applicable / Not applicable
HAP Content % w/w / lbs/gal:	Not applicable / 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. Decomposes slowly. Product is not sensitive to mechanical shock or impact. Not sensitive to static discharge.
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Avoid direct exposure to sunlight or ultraviolet (UV) light sources. High temperatures
Chemical Incompatibility:	concentrated acids, strong oxidizing agents
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	Oral LD50: Rat 763 mg/kg
Dermal LD50 value:	
1,3,5-Triazine-1,3,5(2H,4H,6H)-triethanol	Dermal LD50 Rabbit > 2 g/kg
Inhalation LC50 value:	No data

### Product Animal Toxicity:

Oral LD50 value:	Oral LD50: Rat 800 mg/kg
Dermal LD50 value:	Dermal LD50 Rabbit > 2 g/kg
Inhalation LC50 value:	Inhalation LC50 (4h) nose only Rat 0.87 mg/l (aerosol) Inhalation LC50 (1h) nose only Rat 3.5 mg/l (aerosol)
Skin Irritation:	This material is expected to be severely irritating.
Eye Irritation:	Draize score Rabbit 44 /110 This material is expected to cause irreversible effects to the cornea with impairment of vision or corrosion to the eyes.
Skin Sensitization:	Negative skin sensitizer, guinea pig - Buehler Method
Acute Toxicity:	Moderately toxic by inhalation. Moderately toxic if swallowed. This product is severely irritating to skin, eyes and mucous membranes. Prolonged contact may result in a possible corrosive effect.

Subchronic/Chronic Toxicity:	Repeated dermal and oral administration resulted in significant irritation at the site of administration.
Component Data: 2-Pyridinethiol, 1-oxide, sodium salt	Skeletal muscle atrophy has been observed from oral and dermal exposure in rats to pyriothione compounds. Exposure to monkeys at several times the dose given to rats gave no indication of either muscle or nerve damage. Although these effects are possible with human exposure, the evaluation of the animals toxicological data makes the above effects unlikely from industrial product use.
Reproductive and Developmental Toxicity:	Similar materials were tested and shown not to be teratogenic (cause birth defects) nor fetotoxic.
Component Data: 2-Pyridinethiol, 1-oxide, sodium salt	The Omadine in this product does not exert a direct effect on reproductive performance or post-natal development. This material does not produce fetal malformations from dermal exposure. Fetal toxicity and skeletal malformations were noted, but only at doses which produced maternal toxicity. It is judged that the hazard to human health from this effect is not significant.
Mutagenicity:	A similarly structured compound was tested in a mutagenicity assay and was found to be non-mutagenic under the conditions of the test.
Component Data: 1,3,5-Triazine-1,3,5(2H,4H,6H)-triethanol	This chemical has been shown to be non-mutagenic based on a battery of assays.
2-Pyridinethiol, 1-oxide, sodium salt	This product has been shown to be non-mutagenic based on a battery of assays.
Carcinogenicity:	This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.
Component Data: 2-Pyridinethiol, 1-oxide, sodium salt	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. Slightly toxic to wildlife and domestic animals. Aquatic toxicity data presented is for a structurally similar compound.
Ecological Toxicity Values:	
Product Aquatic Toxicity:	Rainbow trout ( <i>Salmo gairdneri</i> ) 96 hr. LC50: = 42 mg/l (nominal, static). Bluegill 96 hr. LC50: 77 mg/l (nominal, static). Channel Catfish, 96 hr. LC50: 36 mg/l (nominal, static). Daphnia magna, 48 hr. LC50: 5.4 mg/l (nominal, static). Bobwhite quail dietary LC50: > 5620 ppm Bobwhite quail Oral LD50: 1520 mg/kg

### **13. DISPOSAL CONSIDERATIONS**

**CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS 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: If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

Potential US EPA Waste Codes: Not applicable

Disposal Methods: As a nonhazardous waste, it should be disposed of in accordance with local, state and federal regulations.

Components subject to land ban restrictions: No components subject to land ban restrictions.

### **14. TRANSPORT INFORMATION**

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

DOT Description (49 CFR 172.101):

Land (U.S. DOT): Not Regulated

Air (IATA/ICAO): SAME AS LAND

Water (IMO): SAME AS LAND

Flash Point: (C) Not applicable

Special Comments: Inhalation is not a normal route of absorption relative to transportation.

### **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.

Pesticide acceptance indication: US EPA Registration Number: See label for registration number.

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: Acute

Physical: None

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

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:  
Not applicable

Reportable Quantity (40 CFR 302.4):  
None listed

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

No 313-listed chemicals in this product

State Right-to-Know Regulations Status of Ingredients

Pennsylvania: Not listed  
New Jersey: Not listed  
Massachusetts: Not listed

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - Proposition 65: "WARNING: This product contains a chemical(s) known to the State of California to cause cancer and/or birth defects or other reproductive harm."

CAS or CHEMICAL NAME	CAS #	
Formaldehyde (gas) (impurity)	50-00-0	carcinogen; initial date 1/1/88

---

**16. OTHER INFORMATION**

---

MSDS REVISION Revised to meet the ANSI standard of 16 sections.  
STATUS:

MAJOR REFERENCES:

- Harke, H. P. 1977. The sensitizing effect of preservatives for coolants. Contact Dermatitis, 3, 51-52.
- Keczkcs, K. and Brown, P. M. 1976. Hexahydro, 1,3,5, tris(2-hydroxyethyl) triazine, a new bacteriocidal agent as a cause of allergic contact dermatitis. Contact Dermatitis, 2:92-98.
- Poitou, P. and Marignac, B. 1978. Sensitizing effect of Grotan BK in the guinea pig. Contact Dermatitis, 4(3), 166.
- Rycroft, R. 1978. Is Grotan BK a contact sensitizer? Review Article. British Journal of Dermatology, 99, 346-347.
- Urwin, C. et al. 1976. An Evaluation of the Mutagenicity of the Cutting Oil Preservative Grotan BK. Mutation Research, 40, 43-46.
- E. I. du Pont de Nemours and Company, Haskell Laboratory for Toxicology and Industrial Medicine. In Vitro Microbial Mutagenicity Studies of 2-Pyridinethiol-1-oxide, Sodium Salt. Haskell Laboratory Report No. 552-76. July 27, 1976.
- EG&G, Bionomics. Wareham, MA. February, 1982. Acute Toxicity of Triadine 10 to Rainbow Trout (*Salmo gairdneri*). Toxicity Test Report. Bionomics Report #BW-82-2-1117.
- EG&G, Bionomics. Wareham, MA. February, 1982. Acute Toxicity of Triadine 10 to Bluegill (*Lepomis macrochirus*). Toxicity Test Report. Bionomics Report #BW-82-2-1119.
- EG&G, Bionomics. Wareham, MA. February, 1982. Acute Toxicity of Triadine 10 to Channel Catfish (*Ictalurus punctatus*). Toxicity Test Report. Bionomics Report #BW-82-2-1120.
- EG&G, Bionomics. Wareham, MA. February, 1982. Acute Toxicity of Triadine-10 to the Water Flea (*Daphnia magna*). Toxicity Test Report. Bionomics Report #BW-82-2-1122.
- Food and Drug Research Laboratories Incorporated. Maspeth, NY. August 22, 1968. Report on the Effect of Grotan on Fingerling Fish. Laboratory No. 88969.
- Food and Drug Research Laboratories Incorporated. Industrial Biology Division. Conshohocken, PA. April 28, 1969. Grotan-
- Broad Spectrum Bactericide. Repeated Insult Patch Test Assay. I.B.L. No. 1-6777.
- Industrial BIO-TEST Laboratories, Inc. Northbrook, IL. March 14, 1977. Acute Aerosol Inhalation Toxicity Study in Rats. Triadine-10, 70% Active Sample No. 873158. P.O. No. RC-37926. I.B.T. No. 8562-10345.

- Industrial BIO-TEST Laboratories, Inc. Northbrook, IL. July 14, 1977. Acute Toxicity Studies with Triadine-10, 70% Active. Sample No. 873158. P.O. No. RC-37926. I.B.T. No. 8530-10344.
- Industrial BIO-TEST Laboratories, Inc. Northbrook, IL. August 25, 1977. Skin Sensitization Test with Triadine-10 (70%) in Albino Guinea Pigs. Sample No. 873158. I.B.T. No. 8530-10667.
- International Research and Development Corporation, Mattawan, Michigan. Teratology Study in Rats. Study No. 397-17. January 21, 1980.
- International Research and Development Corporation, Mattawan, Michigan. Dermal Developmental Toxicity Study in New Zealand White Rabbits with Sodium Omadine. Study No. 397-044. December 11, 1987.
- International Research and Development Corporation, Mattawan, Michigan. Thirteen Week Subchronic Inhalation Toxicity Study on Na Omadine in Rats. Study No. 397-042. 1989.
- International Research and Development Corporation, Mattawan, Michigan. One Year Oral Toxicity Study in Cynomolgus Monkeys. Sodium Omadine. Study No. 397-047. 1989.
- Leberco Laboratories. Roselle Park, NJ. 1966. Assay on the Safety of Grotan, Trim Regular Cutting and Grinding Fluid When Applied to Rabbits. Assay Number 66898.
- Leberco Laboratories. Roselle Park, NJ. 1967. Assay on the Safety of Grotan in Cutting Oil in the guinea pig. Assay Number 76924.
- Litton Bionetics, Inc. Kensington, MD. January, 1981. Mutagenicity Evaluation of 38-OK in the Ames Salmonella/Microsome Plate Test. Final Report. Genetics Assay No. 5493. LBI Safety No. 6514. LBI Project No. 20988.
- MB Research Laboratories, Inc. Spinnerstown, PA. 1978. Report on Eye Irritation. Triadine 10. Project Number MB 78-3079.
- MB Research Laboratories, Inc. Spinnerstown, PA. 1983. Oral Toxicity in Albino Rats. Triadine 3, #CM-83139, Index #1141. Project Number MB 83-6874 A.
- MB Research Laboratories, Inc. Spinnerstown, PA. 1983. Acute Dermal Toxicity in Albino Rabbits. Triadine 3, #CM-83139, Index #1141. Project Number MB 83-6874 B.
- MB Research Laboratories, Inc. Spinnerstown, PA. 1983. Primary Dermal Irritation in Albino Rabbits. Triadine 3, #CM-83139, Index #1141. Project Number MB 83-6874 C.
- MB Research Laboratories, Inc. Spinnerstown, PA. 1983. Eye Irritation in Rabbits. Triadine 3, #CM-83139, Index #1141. Project Number MB 83-6874 D.
- Pharmakon Research International, Inc., Waverly, Pennsylvania. Rat Hepatocyte Primary Culture/DNA Repair Test. Sodium Omadine. Laboratory Project ID PH 311-OL-001-87. March 16, 1987.
- Pharmakon Research International, Inc., Waverly, Pennsylvania. Micronucleus Test (MNT) (41.4% aqueous). Sodium Omadine. Laboratory Project ID PH 309-OL-001-87. March 30, 1987.
- Pharmakon Research International, Inc., Waverly, Pennsylvania. CHO/HPRT Mammalian Cell Forward Gene Mutation Assay. Sodium Omadine. Laboratory Project ID PH 314-OL-001-87. May 20, 1987.
- Toxicol Laboratories Limited, Ledbury, Herefordshire, ENGLAND. 90 Day Oral (Gavage) Toxicity Study in the Rat. Sodium Omadine. Laboratory Project ID OLA/2/88. Volumes I and II. July 1, 1988.
- Toxicol Laboratories Limited, Ledbury, Herefordshire, ENGLAND. Rat Two-Generation Reproduction Toxicity Study. Sodium Omadine. Reference No. OLA/9/88. Volumes I and II. September, 1988.
- 33. Toxicol Laboratories Limited, Ledbury, Herefordshire, ENGLAND. 90 Day Dermal Toxicity Study in the Rat. Sodium Omadine. No.OLA/5/88. Volumes I and II. November, 1988.
- Toxicol Laboratories Limited, Ledbury, Herefordshire, ENGLAND. 104 Week Oral (Gavage) Combined Carcinogenicity and Toxicity Study in Rat. Sodium Omadine. Protocol No. OLA/3/C.
- Toxicol Laboratories Limited, Ledbury, Herefordshire, ENGLAND. 80 Week Dermal Carcinogenicity Study in the Mouse. Sodium Omadine. Study No. OLA/7/C.
- Triazine Rat Teratology Study, Triadine-3. Toxicol Laboratories, Ltd., Ledbury, England. Reference No. LEF/8/89, June 16, 1989.
- MB Research Laboratories, Inc., Spinnerstown, PA. 1996. Primary Dermal Irritation in Rabbits. Triadine 20. Project No. MB96-5407.03.

- MB Research Laboratories, Inc., Spinnerstown, PA. 1996. Delayed Contact Dermal Sensitization Test in Guinea Pigs – Buehler Method. Triadine 20. Project no.MB96-5407.06.
- MB Research Laboratories, Inc., Spinnerstown, PA. 1996. Primary Eye Irritation / Corrosion in Rabbits. Triadine 20. Project no.MB96-5407.04.
- MB Research Laboratories, Inc., Spinnerstown, PA. 1996. Acute Dermal Toxicity / LD50 in Rabbits. Triadine 20. Project no.MB96-5407.02.
- MB Research Laboratories, Inc., Spinnerstown, PA. 1996. Single Dose Oral Toxicity / LD50 in Rats. Triadine 20. Project no.MB96-5407.01.
- MPI Research, Mattawan, MI. 1997. Acute Inhalation Toxicity Evaluation on Triadine 20 in Rats. Study No. 397-066.

Other 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.