



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: SODIUM OMADINE® 40% AQUEOUS SOLUTION  
INDUSTRIAL FUNGICIDE/BACTERICIDE**

EPA Registration Number: 1258-843

**1. PRODUCT AND COMPANY IDENTIFICATION**

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

REVISION DATE:	11/12/2009
SUPERCEDES:	08/18/2008
MSDS Number:	100000000007
SYNONYMS:	
CHEMICAL FAMILY:	Organic salt
DESCRIPTION / USE:	Industrial biocide
FORMULA:	C_5H_4NOSNa (active ingredient)

**2. HAZARDS IDENTIFICATION**

OSHA Hazard Classification:	<b>Mild skin irritant, Mild eye irritant</b>
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Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known interactions
Medical Conditions Aggravated:	Diseases of muscle and nerve

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**

<u>Hazard Ratings :</u>	<u>Health</u>	<u>Flammability</u>	<u>Physical / Instability</u>	<u>PPI / Special hazard.</u>
HMIS	1	0	0	
NFPA	1	0	0	



Immediate (Acute) Health Effects

Inhalation Toxicity:	Not expected to cause significant toxicity unless there is prolonged exposure to high concentrations. High concentrations may be slightly irritating to the eyes, nose, throat, and lungs.
Skin Toxicity:	Slightly toxic if absorbed by skin. Skin contact may cause minor irritation consisting of transient redness and/or swelling. This irritant effect would not be expected to result in permanent damage.
Eye Toxicity:	Contact may cause mild irritation consisting of transient redness, swelling, and mucous membrane discharge to the conjunctiva. No corneal involvement or visual impairment is expected. Exposure to the human eye has been reported to produce a noticeable stinging response that is relieved upon rinsing the eyes. Reversible irritation with no impairment of vision nor adverse health effects have been reported following exposure.
Ingestion Toxicity:	Moderately toxic if swallowed. If small quantities are ingested, vomiting will normally occur (usually within 5-10 minutes). This product is an emetic and due to this property, it is unlikely that significant quantities of material would be absorbed across the gastrointestinal tract to produce serious toxic effects. However, ingestion may produce gastrointestinal irritation with nausea, vomiting, lethargy and diarrhea.
Acute Target Organ Toxicity:	May cause mild skin and eye irritation. Inhalation of mist/vapors may cause mild mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.

Prolonged (Chronic) Health Effects

Carcinogenicity:	This material did not cause cancer in long-term animal studies.
Reproductive and Developmental Toxicity:	This product 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.
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:	Rodents have been observed to experience muscle weakness from prolonged oral and skin exposures. When tested in Monkeys, no such findings occurred.
Ingestion:	The production of vomiting would provide protection against systemic toxicity. Chronic toxicity via this route is highly unlikely.
Sensitization:	This material tested negative for skin sensitization in humans and laboratory animals.
Chronic Target Organ Toxicity:	There are no known or reported effects to humans from repeated exposure to this product.
Supplemental Health Hazard Information :	No additional health information available.



### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
PYRIDINE, 2,2'-DITHIOBIS-, 1,1'-DIOXIDE	3696-28-4	0 - 1
Sodium Pyrrithione	3811-73-2	40 - 45
SODIUM CHLORIDE	7647-14-5	1 - 5
Water	7732-18-5	50 - 55

### 4. FIRST AID MEASURES

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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

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Flammability Summary (OSHA): Product is not known to be flammable, combustible, pyrophoric or explosive.

Flammable Properties

Flash Point: None  
Autoignition Temperature: None



Fire / Explosion Hazards:	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:	Carbon monoxide, Carbon dioxide, Oxides of sulfur, Oxides of nitrogen, Sodium oxide
Upper Flammable / Explosive Limit, % in air:	Not Applicable/Mixture
Lower Flammable / Explosive Limit, % in air:	Not Applicable/Mixture

## 6. ACCIDENTAL RELEASE MEASURES

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Personal Protection for Emergency Situations:	Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.
<u>Spill Mitigation Procedures</u>	
Air Release:	Vapors may be suppressed by the use of water fog. Contain all liquid for treatment or neutralization.
Water Release:	This material is heavier than water. 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:	Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Place spill cleanup materials in proper container/s for proper disposal and decontaminate the entire spill area. Decontaminate all clothing and the spill area using a detergent and flush with large amounts of water.
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

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Handling:	Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water.
Storage:	Store in a cool dry ventilated location, away from oxidizers, heat, flame, or other incompatible conditions. Keep container(s) closed. Do not expose to direct light. Store away from heat.
Shelf Life Limitations:	2 years minimum if stored in the original unopened container and stored in a cool dry place.



Incompatible Materials for Storage: concentrated acids Strong oxidizing agents  
Do Not Store At temperatures Above: 65 DEG°C / 149 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 levels above the exposure limits are possible.  
Respirator Type : A NIOSH approved air purifying respirator with organic vapor cartridge and P100 filter. 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. Emergency eyewash should be provided in the immediate work area.  
Protective Clothing Type: Impervious

### Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
Sodium Pyrithione	3811-73-2	ARCH-ROEG*	0.35 mg/m <sup>3</sup> TWA

\*ARCH-ROEG: Arch Recommended Occupational Exposure Guideline.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	Aqueous, Solution
Color:	amber
Odor:	mild, Pyridine
Molecular Weight:	149.2
Specific Gravity :	1.2
pH :	8.5 - 10.5 (@ 25 Deg. C) (10% solution in neutral, distilled water)
Boiling Point:	109 DEG°C / 228 DEG°F
Freezing Point:	-25 DEG°C - -30 DEG°C / -13 DEG°F - -22 DEG°F
Melting Point:	Not applicable
Density:	10.0lb/gal (@ 25 Deg. C)
Vapor Pressure:	19 mmHg (@ 25 Deg. C)
Vapor Density:	No data
Viscosity:	No data
Fat Solubility:	No data



Solubility in Water:	54.7 % (Active ingredient) No data
Partition coefficient n-octanol/water:	0.00015
Evaporation Rate:	0.8 (n-Butyl acetate = 1)
Oxidizing:	No data
Volatiles, % by vol.:	50 - 55%
VOC Content	Not applicable
HAP Content	Not applicable

## 10. STABILITY AND REACTIVITY

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

## 11. TOXICOLOGICAL INFORMATION

### Component Animal Toxicology

#### Oral LD50 value:

Sodium Pyrithione	LD50 = 750 mg/kg	Rat
SODIUM CHLORIDE	LD50 = 3,000 mg/kg	Rat

#### Dermal LD50 value:

Sodium Pyrithione	LD50 = 700 mg/kg	Rabbit
SODIUM CHLORIDE	LD50 > 10,000 mg/kg	Rabbit

#### Inhalation LC50 value:

Sodium Pyrithione	Inhalation LC50 4 h = 1.1 MG/L	Rat
SODIUM CHLORIDE	Inhalation LC50 1 h > 42 MG/L	Rat

### Product Animal Toxicity

Oral LD50 value:	LD50 = 1,500 mg/kg	Rat
Dermal LD50 value:	LD50 = 1,800 mg/kg	Rabbit
Inhalation LC50 value:	Inhalation LC50 4.00 h = 2.8 MG/L	Rat

Skin Irritation:	Primary irritation index, Rabbit: 1.08 / 8.0 This material is expected to be slightly irritating.
Eye Irritation:	Draize score Rabbit = 17 / 110. This material caused systemic toxicity and death when administered to the eyes of rabbits. These effects were not seen when this



	product was administered to the eyes of monkeys. No adverse health effects are expected following eye contact in humans. This material is expected to be slightly irritating.
Skin Sensitization:	Negative skin sensitizer, guinea pig - Magnusson-Kligman method., This material tested negative for skin sensitization in humans.
Acute Toxicity:	May cause mild skin and eye irritation. Inhalation of mist/vapors may cause mild mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.
Subchronic / Chronic Toxicity:	Skeletal muscle atrophy has been observed from oral and dermal exposure in rats to pyrithione 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:	This product 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.
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:	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 material did not cause cancer in long-term animal studies.
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: Toxic to wildlife and domestic animals., Highly/very toxic to fish and other aquatic organisms.

### Ecological Toxicity Values for: Sodium Pyrithione

Rainbow trout ( <i>Salmo gairdneri</i> ),	- (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

Air (IATA): Flash Point: None  
UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (SODIUM PYRITHIONE) 9 III

Emergency Response Guide Number: ERG # 171



Transportation Notes: 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 transportation within the US if shipped in non-bulk packages.

EMS: F-A, S-F

## 15. REGULATORY INFORMATION

### UNITED STATES:

Toxic Substances Control Act (TSCA): This is an EPA registered pesticide.  
EPA Pesticide Registration Number: 1258-843

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
ZUSPA_RTK	None established

**New Jersey:**

CAS #	COMPONENT NAME
ZUSNJ_RTK	None established

**Massachusetts:**

CAS #	COMPONENT NAME
ZUSMA_RTK	None established

**California Proposition 65:**

CAS #	COMPONENT NAME
ZUSCA_P65	None established

**WHMIS Hazard Classification:**

None established

**16. OTHER INFORMATION**

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

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. .