Arch Chemicals, Inc.

MATERIAL SAFETY DATA SHEET

FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS

PRODUCT NAME: **SHOCKWAVE™ GRANULAR CALCIUM HYPOCHLORITE**

EPA Registration Number: 1258-1069-42177

1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE:	01/25/2007
SUPERCEDES:	
MSDS Number:	000000003523
SYNONYMS:	None
CHEMICAL FAMILY:	Hypochlorite
DESCRIPTION / USE:	Sanitizer and Oxidizer
FORMULA:	NOT APPLICABLE/MIXTURE

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	**Oxidizer, Toxic by inhalation., Corrosive, Eye and skin hazard, Lung toxin**

Routes of Entry:	Inhalation, skin, eyes, ingestion
Chemical Interactions:	No known or reported interactions.
Medical Conditions Aggravated:	Asthma, respiratory and cardiovascular disease

Human Threshold Response Data

Odor Threshold	Approximately 1.4 mg/m3 (based on odor threshold of chlorine)
Irritation Threshold	Approximately 13-22 mg/m3 (based on irritation threshold of chlorine)

Hazardous Materials Identification System / National Fire Protection Association Classifications

Hazard Ratings :	Health	Flammability	Physical / Instability	PPI / Special hazard.
HMIS	3	0	1	
NFPA	3	0	1	OX

Immediate (Acute) Health Effects

Inhalation Toxicity:	HARMFUL IF PRODUCT IS INHALED IN HIGH CONCENTRATIONS. CAUSES BURNS TO RESPIRATORY TRACT. Inhalation of dust or vapor from this product can be irritating to the nose, mouth, throat and lungs. In confined areas, mechanical agitation can result in high levels of dust, and reaction with incompatible materials (as listed in Section 10) can result in high concentrations of chlorine vapor, either of which may result in burns to the respiratory tract, producing lung edema, shortness of breath, wheezing, choking, chest pains, impairment of lung function and possible permanent lung damage.
Skin Toxicity:	CAUSES SKIN BURNS. Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling, and scab formation. Prolonged skin exposure may cause permanent damage.
Eye Toxicity:	CAUSES BURNS TO EYES. Severe irritation and/or burns can occur following eye exposure. Direct contact may cause impairment of vision and corneal damage.
Ingestion Toxicity:	MAY BE FATAL IF SWALLOWED. CAUSES BURNS TO DIGESTIVE TRACT. Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration or perforation. Due to the corrosive nature of this product, ingestion may be fatal.

Prolonged (Chronic) Health Effects

Inhalation:	Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.
Skin Contact:	Effects similar to those from acute exposure. Effects secondary to tissue destruction may also occur upon prolonged or repeated exposure.
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:	None known
Supplemental Health Hazard Information :	No additional health information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS OR CHEMICAL NAME	CAS #	% RANGE
CALCIUM HYPOCHLORITE	7778-54-3	60 - 80
SODIUM CHLORIDE	7647-14-5	10 - 20
CALCIUM CHLORATE	10137-74-3	0 - 5
CALCIUM CHLORIDE	10043-52-4	0 - 5

CALCIUM HYDROXIDE	1305-62-0	0 - 4
CALCIUM CARBONATE	471-34-1	0 - 5
Water	7732-18-5	5.5 - 10

4. FIRST AID MEASURES

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.

Notes to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA): This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire., This product is a strong oxidizer which is capable of intensifying a fire once started., Product is not known to be flammable, combustible or pyrophoric.

Flammable Properties

Flash Point: Not applicable

Autoignition Temperature: Not applicable

Extinguishing Media: Water only. Do not use dry extinguishers containing ammonium compounds.

Fire Fighting Instructions: Use water to cool containers exposed to fire. See Section 6 for protective equipment for fire fighting.

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

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

6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations:	Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air repirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment.
Spill Mitigation Procedures	
Air Release:	Vapors may be suppressed by the use of water fog. All water utilized to assist in fume suppression, decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment.
Water Release:	This product is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and pH. Advise local authorities of any contaminated water release.
Land Release:	Contact at 1-800-6546-911 immediately. DANGER: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags, and place those bags into a clean, dry disposal container, properly marked and labeled. Disposal containers made of plastic or metal are recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (i.e. removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labeled. Call for disposal procedures.
Additional Spill Information :	Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1-800-654-6911 before beginning any such procedure. FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300 REPORTABLE QUANTITY: 10 lbs. (as calcium hypochlorite) per 40 CFR 302.4.

7. HANDLING AND STORAGE

Handling:	Avoid inhalation of dust and fumes. Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Remove contaminated clothing and wash before reuse.

Storage:	Keep product tightly sealed in original containers. Store product in a cool, dry, well-ventilated area. Store away from combustible or flammable products. Keep product pacakging clean and free of all contamination, including, e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.
Shelf Life Limitations:	Shelf life (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Do not store product at temperatures above 52 Deg.C (125 Deg.F). Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.When stored under moderate temperature conditions, product will maintain stated label strength for approximately two years. Prolonged storage at 35 Deg.C (95 Deg.F) or above will significantly shorten the shelf life. Storage in a climate-controlled storage area or building is recommended in those areas where extremes of high temperature occur.
Incompatible Materials for Storage:	Do not allow product to come in contact with other materials, including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc.
Do Not Store At temperatures Above:	Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products. 52 °C / 125 °F

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	Use local exhaust ventilation to minimize dust and chlorine level where industrial use occurs.Otherwise ensure good general ventilation.

Protective Equipment for Routine Use of Product

Respiratory Protection :	Wear a NIOSH approved respirator if dusts are created. NIOSH approved full face piece air-purifying respirator with chlorine cartridges and dust/mist prefilter.
Skin Protection :	Wear impervious gloves to avoid skin contact. Where industrial use occurs, full impermeable suit may be required.
Eye Protection:	Use safety glasses with side shields. Where industrial use occurs, chemical goggles may be required.
Protective Clothing Type:	Neoprene (This includes: gloves, boots, apron, protective suit)

Exposure Limit Data

CHEMICAL NAME	CAS #	Name of Limit	Exposure
CALCIUM HYPOCHLORITE	7778-54-3	ARCH-ROEG*	1 mg/m3 TWA
CALCIUM HYPOCHLORITE	7778-54-3	NIOSH-IDLH	37 - 48 mg/m3 based on IDLH concentration of chlorine
CALCIUM HYDROXIDE	1305-62-0	ACGIH	5 mg/m3 TWA

CALCIUM HYDROXIDE	1305-62-0	OSHA Z1	5 mg/m3 PEL Respirable fraction.
CALCIUM HYDROXIDE	1305-62-0	OSHA Z1	15 mg/m3 PEL Total dust.
CALCIUM CARBONATE	471-34-1	ACGIH	10 mg/m3 TWA The value is for particulate matter containing no asbestos and <1% crystalline silica.
CALCIUM CARBONATE	471-34-1	OSHA Z1	15 mg/m3 PEL Total dust.
CALCIUM CARBONATE	471-34-1	OSHA Z1	5 mg/m3 PEL Respirable fraction.

*ARCH-ROEG: Arch Recommended Occupational Exposure Guideline.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	solid
Form	Free flowing, powder
Color:	white
Odor:	Chlorine-like
Molecular Weight:	(Active ingredient)143.00
Specific Gravity :	Not applicable
pH :	10.4 - 10.8 (1% solution in neutral, distilled water) (@ 25 Deg. C)
Boiling Point:	Not applicable
Freezing Point:	Not applicable
Melting Point:	Not applicable
Density:	0.8g/cc
Vapor Pressure:	(@ 25 Deg. C) Not applicable
Vapor Density:	Not applicable
Viscosity:	Not applicable
Fat Solubility:	No data
Solubility in Water:	18 % (@ 25 Deg. C) Product also contains calcium hydroxide and calcium carbonate which will leave a residue.
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	Not applicable
Oxidizing:	None established
Volatiles, % by vol.:	Not applicable
VOC Content	Not applicable
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Product is not sensitive to mechanical shock or impact. Product is not sensitive to electrical static discharge. Product will not undergo hazardous polymerization. Product is an oxidizer. Not pyrophoric. Not an organic peroxide. Not water reactive. Arch calcium hypochlorite products meet the specifications of ASTM method E-487-74 as set forth in 49 CFR 173.21.
Conditions to Avoid:	May be unstable at temperatures above 170 Deg. C (338 Deg. F), Avoid storage at temperatures above 52° C (125° F)., Prevent

	ingress of humidity and moisture into container or package. Always close the lid.
Chemical Incompatibility:	This product is chemically reactive with many substances, including, e.g., other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive , flammable or combustible materials.
Hazardous Decomposition Products:	Chlorine
Decomposition Temperature:	170 °C - 180 °C , 338 °F- 356 °F

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

CALCIUM HYPOCHLORITE	LD50 (65% calcium hypochlorite) 850 mg/kg Rat
SODIUM CHLORIDE	LD50 = 3,000 mg/kg Rat
CALCIUM CHLORIDE	LD50 = 1,000 mg/kg Rat

Dermal LD50 value:

CALCIUM HYPOCHLORITE	LD50 (65% calcium hypochlorite) > 2,000 mg/kg Rabbit
SODIUM CHLORIDE	LD50 > 10,000 mg/kg Rabbit
CALCIUM CHLORIDE	LD50 = 2,630 mg/kg Rat

Inhalation LC50 value:

CALCIUM HYPOCHLORITE	Inhalation LC50 1 HOUR (65% calcium hypochlorite), (Nose Only) = 2.04 MG/L Rat
CALCIUM HYPOCHLORITE	Inhalation LC50 4 HOUR (65% calcium hypochlorite), (Nose Only) = 0.51 MG/L Rat
SODIUM CHLORIDE	Inhalation LC50 1 HOUR > 42 MG/L Rat
CALCIUM CHLORIDE	No data

Product Animal Toxicity

Oral LD50 value:	LD50 850 mg/kg Rat
Dermal LD50 value:	LD50 CAUSES BURNS TO EYES AND SKIN. > 2,000 mg/kg Rabbit
Inhalation LC50 value:	LC50 1.00 HOUR Based on the acute inhalation toxicity for chlorine. Approximately 1.3 MG/L Rat
Subchronic / Chronic Toxicity:	There are no known or reported effects from repeated exposure.

Reproductive and Developmental Toxicity:	Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.
CALCIUM CHLORIDE	Not known or reported to cause reproductive or developmental toxicity.
Mutagenicity:	Calcium hypochlorite has been tested in the Dominant lethal assay in male mice, and it did not induce a dominant lethal response. Calcium hypochlorite has been reported to produce mutagenic activity in two in vitro assays. It

has, however, been shown to lack the capability to produce mutations in animals based on results from the micronucleus assay. In vitro assays frequently are inappropriate to judge the mutagenic potential of bactericidal chemicals due to a high degree of cellular toxicity. The concentration which produces mutations in these in vitro assays is significantly greater than the concentrations used for disinfection. Based on high cellular toxicity in in vitro assays and the lack of mutagenicity in animals, the risk of genetic damage to humans is judged not significant.

CALCIUM CHLORIDE — This product was determined to be non-mutagenic in the Ames assay. It was also shown to be non-clastogenic in the chromosomal aberration test.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA. One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumors. IARC (International Agency for Research on Cancer) reviewed studies conducted with several hypochlorite salts. IARC has classified hypochlorite salts as having inadequate evidence for carcinogenicity to humans and animals. IARC therefore considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans (Group 3 Substance).

CALCIUM CHLORIDE — This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

12. ECOLOGICAL INFORMATION

Ecological Toxicity Values for: **CALCIUM HYPOCHLORITE**

Bluegill	-	(nominal, static). 96 HOUR LC50 0.088 mgl
Rainbow trout (Salmo gairdneri),	-	(nominal, static). 96 HOUR LC50 0.16 mgl
Daphnia magna,	-	(nominal, static). 48 HOUR LC50 0.11 mgl
Bobwhite quail	-	Dietary LC50 > 5,000 ppm
Mallard ducklings	-	Dietary LC50 > 5,000 ppm
Bobwhite quail	-	Oral LD50 3,474 mg/kg

Ecological Toxicity Values for: **CALCIUM CHLORIDE**

Bluegill	-	(nominal, static). 96 HOUR LC50 = 10,650 mgl
Mosquito fish	-	(nominal, static). 96 HOUR LC50 = 13,400 mgl
Fathead minnow (Pimephales promelas),	-	(nominal, static). 96 HOUR LC50 = 4,630 mgl
Daphnia magna,	-	(nominal, static). 48 HOUR LC50= 2,770 mgl
Ceriodaphnia dubia	-	(nominal, static). 48 HOUR LC50= 1,830 mgl
Nitzschia linearis (diatom)	-	(nominal, static). 5 day LC50 = 3,130 mgl

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 :	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001.If this product becomes a waste, it will be a hazardous waste which is subject to the Land Disposal restrictions under 40 CFR 268 and must be managed accordingly.
Disposal Methods :	As a hazardous solid waste it should be disposed of in accordance with local, state and federal regulations.
Potential US EPA Waste Codes :	D001

14. TRANSPORT INFORMATION

Land (US DOT): UN2880 CALCIUM HYPOCHLORITE, HYDRATED MIXTURE 5.1 II
Water (IMDG): UN2880 CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, 5.1 II

Flash Point: Not applicable
Air (IATA): UN2880 CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, 5.1 II
Emergency Response Guide Number: ERG # 140

Transportation Notes**:** THIS MATERIAL IS REGULATED AS A DOT HAZARDOUS MATERIAL. HAZARD LABEL/PLACARD: OXIDIZER REPORTABLE QUANTITY: 10 lbs. (Per 49 CFR 172.101, Appendix) Under specific circumstances, this product can ship under two transport exceptions, Limited Quantity or Consumer Commodity. See Bill of Lading for proper shipping description.

15. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA):	This is an EPA registered pesticide.
EPA Pesticide Registration Number:	1258-1069-42177
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	Fire and Reactivity

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

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

SARA III	Threshold Planning Quantity:	None established

Reportable Quantity (49 CFR 172.101, Appendix):

CERCLA	Reportable quantity:	CALCIUM HYPOCHLORITE Value: 10lbs
SARA III	Reportable quantity:	None established

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

SARA III	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:

CAA	None established
CAA 112I	None established
CAA AP	None established

State Right-to-Know Regulations Status of Ingredients
Pennsylvania:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE
7778-54-3	CALCIUM HYPOCHLORITE

PENN RTK

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)
PENN RTK
08 1989
CHLORIC ACID, CALCIUM SALT

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)
PENN RTK
08 1989
CALCIUM HYDROXIDE (CA(OH)2)

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)
PENN RTK

08 1989
HYPOCHLOROUS ACID, CALCIUM SALT

New Jersey:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE

NJ RTK

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

NJ RTK
12 1989
Substance no. 0313
CALCIUM CHLORATE CHLORIC ACID, CALCIUM SALT

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

NJ RTK
12 1989
Substance no. 0322
CALCIUM HYDROXIDE

Massachusetts:

CAS #	COMPONENT NAME
10137-74-3	CALCIUM CHLORATE
1305-62-0	CALCIUM HYDROXIDE
7778-54-3	CALCIUM HYPOCHLORITE

MASS RTK

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

MASS RTK
04 1993
CALCIUM CHLORATE

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

MASS RTK
04 1993
CALCIUM HYDROXIDE

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

MASS RTK
04 1993
CALCIUM HYPOCHLORITE

California Proposition 65:

CAS #	COMPONENT NAME

US CA CRT	None established
US CA65CRT	None established

WHMIS Hazard Classification:
WHMIS

Canada. Canadian Environmental Protection Act (CEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part II, Vol. 122, No. 2)

WHMIS
01 1988
Threshold limits: 1%
English List no. 302
CALCIUM HYDROXIDE

16. OTHER INFORMATION

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