

Lonza

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Poolsure Townhurst
Townhurst Drive 1707

Houston , TX 77043

Dear Customer:

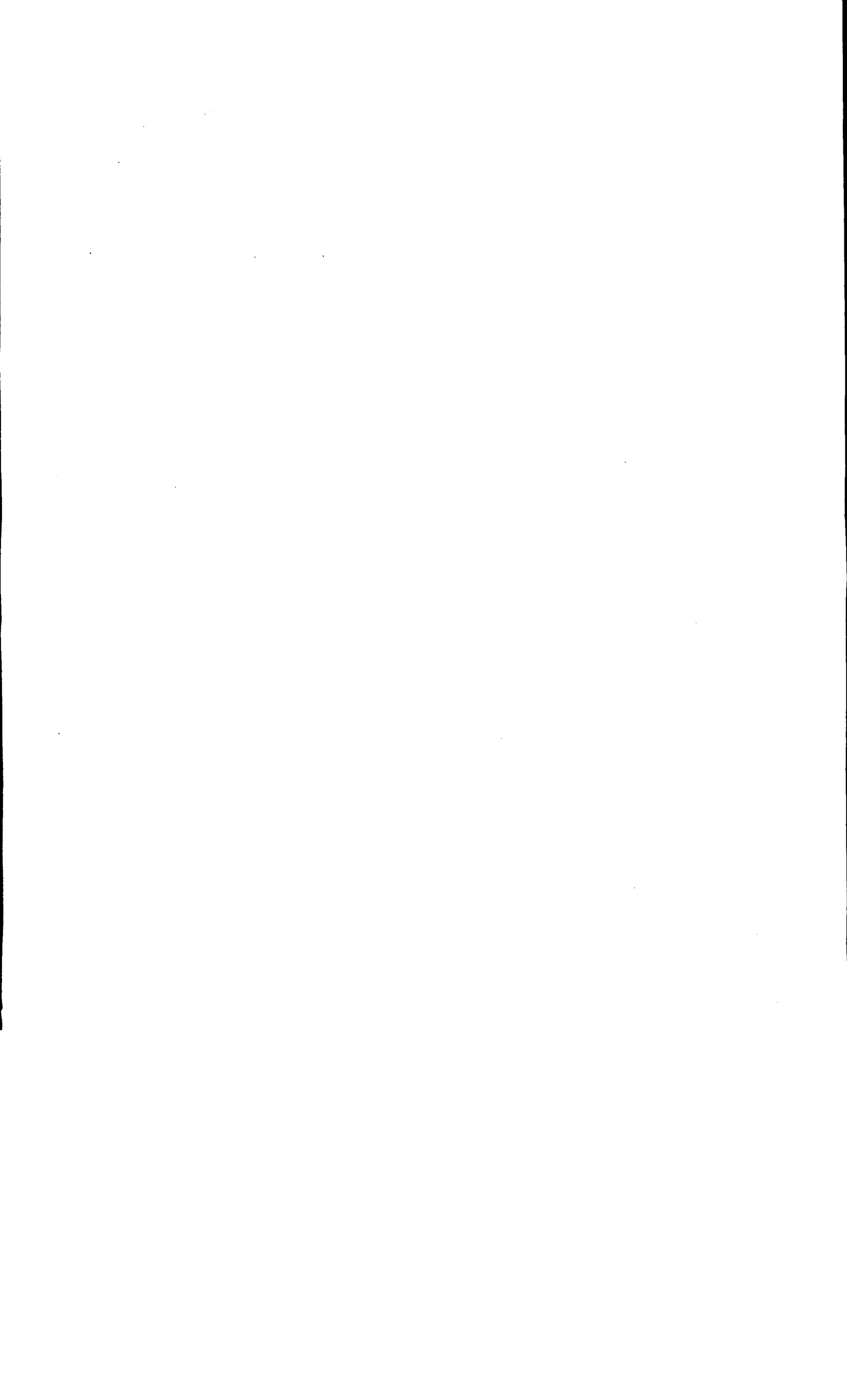
This Material Safety Data Sheet ("MSDS") is intended for your use in meeting your requirements under OSHA's Hazard Communication Standard (29 CFR 1910.1200) and SARA Title III. It is prepared by Arch Chemicals chemists, toxicologists, industrial hygienists, physicians, safety and environmental specialists. While MSDS's have proved invaluable in the hands of health and safety professionals as a tool for hazard evaluation of products in the confines of the workplace, caution must be exercised against direct extrapolation of MSDS hazard health data to the community environment, outside the perimeter of the workplace, or use by the general public. For such purposes, safety, health, and environmental professionals should be consulted to interpret MSDS data for each specific situation. In case of an emergency, contact Arch Chemicals at 1-800-654-6911, 24 hours a day/7 days a week.

Arch Chemicals also offers a unique service to our customers, the Arch MSDS Consultation Line. This service is operational seven days a week, 365 days a year from the hours of 8am until 4pm Eastern Time (ET). Arch personnel will answer questions about the information contained in the MSDS; provide additional resources needed to back up data on the MSDS; and provide collateral information such as technical bulletins, storage and handling data or a glossary of common MSDS terms. Customers may reach the Arch MSDS Consultation Line by calling 1-800-511-MSDS (6737).

Under Arch Chemicals computerized order entry system, a copy of the relevant MSDS will automatically be sent to you when you order a product. If an MSDS is updated after your order is sent, we will forward the update with your next shipment of the same product. If you feel this MSDS has been sent to you in error or would like to update MSDS addressing information, please contact the Arch MSDS Consultation Line.

Arch's newest effort is to provide our customers with the most current health and safety information about our products quickly and efficiently by utilizing electronic mail as the preferred way to distribute our MSDS's. MSDS's will be sent to our customers first by electronic mail, second by facsimile (fax) and finally by First Class mail. If you receive the MSDS by electronic mail or fax, it is important to understand that a paper copy will not follow. You will, therefore, need to make arrangement to have appropriate copies of the MSDS available at your facilities.

Colleen R. Hains, Global MSDS and Product Stewardship Manager.
Arch Chemicals, Inc.
501 Merritt 7
Norwalk, CT 06856-5204





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: PULSAR CRS

1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204	REVISION DATE:	04/06/2011
	SUPERCEDES:	
	MSDS Number:	000000013621
	SYNONYMS:	None
	CHEMICAL FAMILY:	Not Applicable/Mixture
	DESCRIPTION / USE	Swimming pool water treatment
	FORMULA:	NOT APPLICABLE/MIXTURE

2. HAZARDS IDENTIFICATION

OSHA Hazard Classification:	This product is not considered to be hazardous under OSHA 29 CFR 1910.1200.
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Routes of Entry:	This product will not exert a significant adverse effect to health from any route of exposure.
Chemical Interactions:	No known or reported interactions.
Medical Conditions Aggravated:	None known or reported

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	0	1	0	
NFPA	0	1	0	

Immediate (Acute) Health Effects

Inhalation Toxicity:	Not expected to be toxic by inhalation. Not expected to be irritating.
Skin Toxicity:	Not expected to be toxic from dermal contact. Not expected to be irritating to the skin.
Eye Toxicity:	Contact would be expected to cause transient redness if not washed out and left in the eye for an extended period of time. Not considered to be a primary eye irritant.
Ingestion Toxicity:	Not expected to be toxic by ingestion. 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:	There are no known or reported target organ effects from acute exposure.

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:	Not known or reported to cause reproductive or developmental toxicity.
Inhalation:	There are no known or reported effects from chronic exposure.
Skin Contact:	There are no known or reported effects from chronic exposure.
Skin Absorption:	Not expected to be absorbed through the skin.
Ingestion:	There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.
Sensitization:	Not expected to be a skin sensitizer.
Chronic Target Organ Toxicity:	There are no known or reported target organ effects from chronic exposure.
Supplemental Health Hazard Information :	No additional health information available.



3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
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This product does not contain any ingredients considered to be hazardous that are required to be listed under OSHA 29 CFR 1910.1200.

4. FIRST AID MEASURES

Inhalation:	IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.
Skin Contact:	IF ON SKIN: Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops.
Eye Contact:	IF IN EYES: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops.
Ingestion:	IF SWALLOWED: Immediately drink water to dilute. Seek medical attention if symptoms develop. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA):	Combustible above 93 deg. C / 200 deg. F.
<u>Flammable Properties</u>	
Flash Point:	> 100 DEG°C / 212 DEG°F
Autoignition Temperature:	No data
Fire / Explosion Hazards:	Material may be ignited only if preheated to high temperatures, for example in a fire.
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:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Upper Flammable / Explosive Limit, % in air:	No data
Lower Flammable / Explosive Limit, % in air:	No data



6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.

Spill Mitigation Procedures

Air Release:

Vapors may be suppressed by the use of water fog. Contain all liquids for treatment or disposal.

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.

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. After removal, flush contaminated area thoroughly with water. Contain all liquids for treatment or disposal.

Additional Spill Information :

Remove all sources of ignition. 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:

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 and well ventilated place. Isolate from incompatible materials. Do not store at temperatures below: 40 Deg. F (4.4 Deg. C)

Incompatible Materials for Storage:

Refer to Section 10, "Incompatible Materials."

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:

Additional ventilation beyond that of general exhaust is not normally required. No exposure limits exist for the constituents of this product.

Protective Equipment for Routine Use of Product

Respiratory Protection :

Respiratory protection not normally needed.

Respirator Type :

Not normally required.



Skin Protection : Wear impervious gloves to avoid skin contact.
Eye Protection: Use safety glasses with side shields.
Protective Clothing Type: Impervious

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
No Data Found			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Form	liquid
Color:	clear
Odor:	mild
Molecular Weight:	No data
Specific Gravity :	No data
pH :	2 - 3
Boiling Point:	100 DEG°C / 212 DEG°F
Freezing Point:	No data
Melting Point:	Not applicable
Density:	0.995 - 1.010
Vapor Pressure:	No data
Vapor Density:	No data
Viscosity:	20 - 40 CPS
Fat Solubility:	No data
Solubility in Water:	Soluble
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	No data
Oxidizing:	No data
Volatiles, % by vol.:	No data
VOC Content	No data
HAP Content	No data

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary: Stable under normal conditions. Product will not undergo hazardous polymerization.

Conditions to Avoid: Sparks, open flame, other ignition sources, and elevated temperatures., Avoid freezing.

Chemical Incompatibility: Strong oxidizing agents, Strong bases

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Oxides of nitrogen, Hydrogen chloride

Decomposition Temperature: No data



11. TOXICOLOGICAL INFORMATION

Product Animal Toxicity

Oral LD50 value: LD50 Believed to be > 5,000 mg/kg rat

Dermal LD50 value: LD50 Believed to be > 2,000 mg/kg rabbit

Inhalation LC50 No data

value

Skin Irritation: Not expected to be irritating to the skin.

Eye Irritation: Not expected to be irritating.

Skin Sensitization: Not expected to be a skin sensitizer.

Acute Toxicity: There are no known or reported target organ effects from acute exposure.

Subchronic / Chronic Toxicity: Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity: Not known or reported to be mutagenic.

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

12. ECOLOGICAL INFORMATION

Overview: No ecological information available.



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 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.

Disposal Methods : As a nonhazardous liquid 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): NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL,

Flash Point: 100 DEG°C >
Air (IATA): NOT REGULATED AS A HAZARDOUS MATERIAL,
Emergency Response Guide Number: Not applicable

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: None established

FIFRA Listing of Pesticide Chemicals (40 CFR 180): Not registered in the US under FIFRA.

Superfund Amendments and Reauthorization Act (SARA) Title III:

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

Health None
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 SODIUM HYPOCHLORITE
Value: 100lbs

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

US. EPA Clean Air Act (CAA) Section 111 SOCM I Intermediate or Final Volatile Organic Compounds (40 CFR 60.489) 01 1996
SODIUM BENZOATE

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
PULSAR CRS	



ZUSNJ_RTK

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 :

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. .

