



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: GLB POOL CLOSING SYSTEM - GLB Algimycin
Winter**

1. PRODUCT AND COMPANY IDENTIFICATION

Supplier GLB 1400 Bluegrass Lakes Parkway , Alpharetta, GA, 30004 United States	REVISION DATE: 03/17/2011 SUPERCEDES: 03/23/2009
Telephone: +17705215999 Telefax: +17705215959 Web: www.poospacare.com	MSDS Number: 000000012496 SYNONYMS: CHEMICAL FAMILY: None DESCRIPTION / USE: None established FORMULA: None established

Manufacturer
Advantis Technologies
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

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.
Medical Conditions Aggravated: None known.



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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	0	0	
NFPA	0	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity: Not expected to cause irritation. Not expected to be toxic by inhalation.

Skin Toxicity: Skin contact may cause minor irritation consisting of transient redness and/or swelling.

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.

Ingestion Toxicity: Not expected to be toxic by ingestion. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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.

Ingestion: There are no known or reported effects from chronic exposure.

Sensitization: Not expected to be a skin sensitizer.

Chronic Target Organ Toxicity: None known

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>
POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE	31512-74-0	



2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C 26062-79-3

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): The product is not flammable., Not combustible., The substance or mixture is not classified as pyrophoric., Not explosive

Flammable Properties

Fire / Explosion Hazards: Will not burn

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire Fighting Instructions: Use water spray to cool unopened containers. 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.



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: not applicable
Water Release: solubleIf the product contaminates rivers and lakes or drains inform respective authorities.
Land Release: Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).Do not contaminate ponds, waterways or ditches with chemical or used container.
Additional Spill Information : Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

7. HANDLING AND STORAGE

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing vapors, mist or gas.
Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze.
Incompatible Materials for Storage: Refer to Section 10, "Incompatible Materials."

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Protective Equipment for Routine Use of Product

Respiratory Protection : Respiratory protection not normally needed.
Skin Protection : Impervious gloves
Eye Protection: Safety glasses with side-shields
Protective Clothing Type: impervious clothing

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	No data.
Color:	No data.
Odor:	No data.
Molecular Weight:	None established
Specific Gravity :	1.0 - 1.2
pH :	20 °C 6.0 - 8.0
Boiling Point:	100 °C 212 °F
Freezing Point:	not applicable
Melting Point:	not applicable
Density:	
Bulk Density:	no data available
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	no data available
Solubility in Water:	no data available
Partition coefficient n- octanol/water:	Not applicable
Evaporation Rate:	no data available
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	no data available
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Chemical Incompatibility:	Oxidizing agents
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION



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Component Animal Toxicology

Oral LD50 value:

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE] LD50 (60% Active Ingredient) = 1,951 mg/kg rat male

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE] LD50 (60% Active Ingredient) = 2,587 mg/kg rat female

2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C LD50 > 5,000 mg/kg Rat

Component Animal Toxicology

Dermal LD50 value:

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE] LD50 (60% Active Ingredient) > 2,000 mg/kg rabbit

2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C LD50 > 20,000 mg/kg Rabbit

Component Animal Toxicology

Inhalation LC50 value:

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE] LC50 4 h (60% Active Ingredient) = 2.9 ppm rat

2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C No data

Product Animal Toxicity

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

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

Inhalation LC50 value: No data.

Skin Irritation: Not expected to cause irritation.

Eye Irritation: Not expected to cause irritation.

Skin Sensitization: Not believed to be sensitising to skin.

Subchronic / Chronic Toxicity: There are no known or reported effects from chronic exposure.

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.

POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE A two-year rat carcinogenicity study showed a slight increase in c-cell adenomas in female rats. Studies with male rats and male and female mice did not show any evidence of carcinogenic response. This product is not considered a carcinogen

12. ECOLOGICAL INFORMATION

Overview: No data for product. Individual constituents are as follows:

Ecological Toxicity Values for: POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE

Rainbow trout (<i>Salmo gairdneri</i>),	-	96 h LC50 = 0.047 mg/l
Bluegill sunfish	-	96 h LC50 = 0.21 mg/l
Fathead minnow (<i>Pimephales promelas</i>),	-	96 h LC50 = 0.26 mg/l
Mysid shrimp	-	96 h LC50= 13 mg/l
Daphnia magna,	-	48 h LC50= 0.37 mg/l

Ecological Toxicity Values for: 2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, C

Bluegill sunfish	-	96 h LC50 = 0.82 - 1.3 mg/l, (40% Solution)
Rainbow trout (<i>Salmo gairdneri</i>),	-	96 h LC50 0.37 mg/l (40% Solution)
Daphnia magna,	-	48 h LC50= 0.9 mg/l (In clear water), (40% Solution)
Daphnia magna,	-	48 h LC50= 1.2 - 2.5 mg/l, (In 50 ppm clay suspension), (40% Solution)
Daphnia magna,	-	48 h LC50= 24.8 mg/l (In 1000 ppm clay suspension), (40% Solution)



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. 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): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE]) 9 III
Water (IMDG): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE]) 9 III MARINE POLLUTANT

Air (IATA): UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (POLY [OXYETHYLENE (DIMETHYLIMINIO) ETHYLENE]) 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, 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): This is an EPA registered pesticide.
EPA Pesticide Registration Number: None established



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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 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 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
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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 :

SECTIONS REVISED: First formulated version in SAP.

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. .



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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: **GLB POOL CLOSING SYSTEM - GLB Oxybrite**

1. PRODUCT AND COMPANY IDENTIFICATION

Supplier

GLB
1400 Bluegrass Lakes Parkway ,
Alpharetta, GA, 30004
United States

Telephone: +17705215999
Telefax: +17705215959
Web: www.poospacare.com

REVISION DATE: 11/11/2010
SUPERCEDES: 04/27/2009
MSDS Number: 000000012469
SYNONYMS:
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

Manufacturer

Advantis Technologies
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

2. HAZARDS IDENTIFICATION

OSHA Hazard
Classification:

Corrosive, Possible skin sensitizer, Oxidizer

Routes of Entry: Eyes Skin Inhalation Ingestion
Medical Conditions Aggravated: Asthma, Respiratory disorders



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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: **GLB SEQUA-SOL**

1. PRODUCT AND COMPANY IDENTIFICATION

Supplier

GLB
1400 Bluegrass Lakes Parkway ,
Alpharetta, GA, 30004
United States

Telephone: +17705215999
Telefax: +17705215959
Web: www.poolspacare.com

REVISION DATE: 04/19/2011
SUPERCEDES: 07/06/2009

MSDS Number: 000000012548
SYNONYMS: None
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

Manufacturer

Advantis Technologies
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

2. HAZARDS IDENTIFICATION

OSHA Hazard
Classification:

**This product is not considered to be hazardous under OSHA 29 CFR
1910.1200.**

Routes of Entry: Inhalation, skin, eyes, ingestion
Chemical Interactions: No known interactions
Medical Conditions Aggravated: None known or reported



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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	0	0	
NFPA	0	0	0	

Immediate (Acute) Health Effects

Inhalation Toxicity: Not expected to be toxic by inhalation. Not a respiratory irritant.
Skin Toxicity: Contact would be expected to cause transient redness if not washed off and left on the skin for an extended period of time. Not considered to be a primary skin irritant. Not expected to be toxic from dermal contact.
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. No corneal involvement or visual impairment is expected. 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.
Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.
Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.
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

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
Sodium Citrate	6132-04-3	
Hexametaphosphate	68915-31-1	

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):	Product is not known to be flammable, combustible, pyrophoric or explosive.
<u>Flammable Properties</u>	
Fire / Explosion Hazards:	Material will not ignite or burn.
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.
Hazardous Combustion Products:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.



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

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: 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: 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

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: No data.
Color: No data.



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Odor:	No data.
Molecular Weight:	None established
Specific Gravity :	1
	20 °C
pH :	6.0 - 7.0
Boiling Point:	> 1,500 °C 2,732 °F
Freezing Point:	
	not applicable
Melting Point:	
	not applicable
Density:	not applicable
Bulk Density:	no data available
Vapor Pressure:	no data available
Vapor Density:	no data available
Viscosity:	no data available
Solubility in Water:	soluble
Partition coefficient n- octanol/water:	Not applicable
Evaporation Rate:	no data available
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	no data available
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Conditions to Avoid:	High temperatures
Chemical Incompatibility:	Strong oxidizing agents
Hazardous Decomposition Products:	Oxides of phosphorus, Sodium oxide
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

Hexametaphosphate LD50 = 3,053 mg/kg rat

Component Animal Toxicology

Dermal LD50 value:

GLB SEQUA-SOL

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Hexametaphosphate no data available

Component Animal Toxicology

Inhalation LC50 value:

Hexametaphosphate LC50 4 h > 3.69 MG/L rat

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

value:

Skin Irritation: Contact would be expected to cause transient redness if not washed off and left on the skin for an extended period of time., Not considered to be a primary skin irritant.

Eye Irritation: 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.

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

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 aquatic toxicity data is available for this product.



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 liquid waste, it should be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

Land (US DOT): NOT REGULATED AS A DOT HAZARDOUS MATERIAL
Water (IMDG): NOT REGULATED AS A HAZARDOUS MATERIAL, Marine Pollutant:
No

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:



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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
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ZUSCA_P65

None established

WHMIS Hazard Classification:

None established

16. OTHER INFORMATION

MSDS REVISION STATUS :

SECTIONS REVISED:

Major References :

First formulated version in SAP.

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. .



MATERIAL SAFETY DATA SHEET

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	OX

Immediate (Acute) Health Effects

Inhalation Toxicity: May cause respiratory irritation.

Skin Toxicity: Corrosive to skin

Eye Toxicity: Corrosive. Burns can occur following exposure. Direct contact may cause impairment of vision, corneal damage and/or blindness. Rinsing of the eye should take place immediately.

Ingestion Toxicity: 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. Ingestion may cause severe damage to the gastrointestinal tract with the potential to cause perforation.

Acute Target Organ Toxicity: Eyes, Skin, Respiratory Tract, Gastrointestinal tract

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 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.

Ingestion: There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure.

Sensitization: May cause allergic skin sensitization in some individuals.

Chronic Target Organ Toxicity: None known

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>
POTASSIUM PEROXYMONOSULFATE	10058-23-8	
POTASSIUM BISULFATE	7646-93-7	
POTASSIUM PEROXYDISULFATE	7727-21-1	
POTASSIUM SULFATE	7778-80-5	
MAGNESIUM CARBONATE	546-93-0	
Sodium tetraborate pentahydrate	12179-04-3	

4. FIRST AID MEASURES

Inhalation:	IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.
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.
Eye Contact:	IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.
Ingestion:	IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.



5. FIRE FIGHTING MEASURES

Flammability Summary (OSHA): The product is not flammable., Not combustible., The substance or mixture is not classified as pyrophoric., Not explosive

Flammable Properties

Fire / Explosion Hazards: Will not burn May intensify fire; oxidiser.
Extinguishing Media: Water
Fire Fighting Instructions: Use water spray to cool unopened containers. 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.

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: Keep people away from and upwind of spill/leak.
Water Release: If the product contaminates rivers and lakes or drains inform respective authorities.
Land Release: Sweep up and shovel into suitable containers for disposal. Avoid creating dust.
Additional Spill Information : Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

7. HANDLING AND STORAGE

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing dust.
Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Storage of large masses of "OXONE" or blended "OXONE" should not exceed a 4 ft. (1.2m) cube.
Incompatible Materials for Storage: Refer to Section 10, "Incompatible Materials."



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: Local exhaust ventilation is recommended if significant dusting occurs. Otherwise use general exhaust ventilation.

Protective Equipment for Routine Use of Product

Respiratory Protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible., A NIOSH approved air purifying respirator with dust/mist filter.

Skin Protection : Avoid contact with skin. Impervious gloves A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Chemical resistant goggles must be worn. Face-shield

Protective Clothing Type: Impervious, Neoprene, Butyl rubber

General Protective Measures: Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Limit Data

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>Name of Limit</u>	<u>Exposure</u>
POTASSIUM PEROXYDISULFATE	7727-21-1	ACGIH	0.1 mg/m ³ TWA 1996 Adoption
MAGNESIUM CARBONATE	546-93-0	OSHA Z1	15 mg/m ³ TWA total dust
MAGNESIUM CARBONATE	546-93-0	OSHA Z1	5 mg/m ³ TWA respirable fraction
Sodium tetraborate pentahydrate	12179-04-3	ACGIH	2 mg/m ³ TWA Inhalable fraction
Sodium tetraborate pentahydrate	12179-04-3	ACGIH	6 mg/m ³ STEL Inhalable fraction

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: solidsolid
 Form: granular
 Color: purple
 Odor: none
 Molecular Weight: None established
 Specific Gravity : 1.2
 20 °C
 pH : no data available



Boiling Point:	no data available
Freezing Point:	no data available
Melting Point:	no data available
Density:	
Bulk Density:	no data available
Vapor Pressure:	no data available
Vapor Density:	Not volatile
Viscosity:	no data available
Solubility in Water:	250 g/l 20 °C
Partition coefficient n- octanol/water:	Not applicable
Evaporation Rate:	not applicable
Oxidizing:	None established
Volatiles, % by vol.:	no data available
VOC Content	no data available
HAP Content	Not applicable

10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions.
Conditions to Avoid:	Heat., Exposure to moisture.
Chemical Incompatibility:	Oxidizing agents, Heavy metal salts, Cyanides, Halides
Hazardous Decomposition Products:	Oxygen, Heat., Other hazardous decomposition products may be formed.
Decomposition Temperature:	No data

11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

Sodium tetraborate LD50 3,200 - 3,400 mg/kg = Rat
pentahydrate

Component Animal Toxicology

Dermal LD50 value:

Sodium tetraborate LD50 > 2,000 mg/kg Rabbit
pentahydrate



Component Animal Toxicology

Inhalation LC50 value:

Sodium tetraborate pentahydrate Inhalation LC50 4 h > 2 MG/L Rat

Product Animal Toxicity

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

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

Inhalation LC50 No data.

value:

Skin Irritation: Corrosive to skin

Eye Irritation: Corrosive to eyes

Skin Sensitization: Possible skin sensitizer based on animal tests

Subchronic / Chronic Toxicity: There are no known or reported effects from chronic exposure.

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: There is no data available for this product.

Ecological Toxicity Values for: Sodium tetraborate pentahydrate

Rainbow trout (embryo - larval stage)	-	24 day LC50 (chronic toxicity) = 88 mg/l
Daphnia magna,	-	24 h EC50= 242 mg/l
Green algae (Scenedesmus subspicatus)	-	96 h EC10 = 24 mg/l



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. As a nonhazardous solid 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): UN3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (MONOPERSULFATE COMPOUND) 8 II

Water (IMDG): UN3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (MONOPERSULFATE COMPOUND) 8 II

Air (IATA): UN3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (MONOPERSULFATE COMPOUND) 8 II

Emergency Response Guide Number: ERG # 154

Transportation Notes: Under specific circumstances, this product can ship under two transport exceptions, Limited Quantity or Consumer Commodity. See Bill of Lading for proper shipping description.

EMS: F-A, S-B

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 Not registered in the US under FIFRA.



(40 CFR 180):

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
7727-21-1	POTASSIUM PEROXYDISULFATE
ZUSPA_RTK	



MATERIAL SAFETY DATA SHEET

Pennsylvania: Hazardous substance list

1989-08-11

PEROXYDISULFURIC ACID ($[(HO)S(O)_2]_2O_2$), DIPOTASSIUM SALT

New Jersey:

CAS #	COMPONENT NAME
7646-93-7	POTASSIUM BISULFATE
7727-21-1	POTASSIUM PEROXYDISULFATE
546-93-0	MAGNESIUM CARBONATE

ZUSNJ_RTK

New Jersey Right to Know Hazardous Substance List (RTK-HSL)

2007-03-01

POTASSIUM HYDROGEN SULFATE POTASSIUM BISULFATE SULFURIC ACID,
MONOPOTASSIUM SALT

Special Health Hazard - Corrosive

New Jersey Right to Know Hazardous Substance List (RTK-HSL)

2007-03-01

POTASSIUM PERSULFATE PEROXYDISULFURIC ACID, ($[(HO)S(O)_2]_2O_2$),
DIPOTASSIUM SALT

New Jersey Right to Know Hazardous Substance List (RTK-HSL)

2007-03-01

MAGNESITE CARBONIC ACID, MAGNESIUM SALT (1:1)

Massachusetts:

CAS #	COMPONENT NAME
7727-21-1	POTASSIUM PEROXYDISULFATE
546-93-0	MAGNESIUM CARBONATE

ZUSMA_RTK

Massachusetts Right to Know List of Chemicals and Hazard Classifications

1993-04-24

POTASSIUM PERSULFATE

Massachusetts Right to Know List of Chemicals and Hazard Classifications

1991-07-01

MAGNESITE DUST

massachusetts hazardous substance



MATERIAL SAFETY DATA SHEET

California Proposition 65:

CAS #	COMPONENT NAME
ZUSCA_P65	None established

WHMIS Hazard Classification:

Ingredient Disclosure List (WHMIS)

2007-08-24

Threshold limits: 1 Weight percent

1513

Potassium hydrogen sulfate

Ingredient Disclosure List (WHMIS)

1988-01-20

Threshold limits: 0.1 Weight percent

1252

PERSULFATE COMPOUNDS

16. OTHER INFORMATION

MSDS REVISION STATUS :

SECTIONS REVISED:

First formulated version in SAP.

Major References :

Available upon request.

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