



MURSATT CHEMICALS LIMITED  
11 REGALCREST COURT  
WOODBIDGE, ONTARIO, CANADA, L4L 8P3  
(905)-850-8444

PRODUCT: SHOCK N' SHINE

CODE: MUR0057

### SECTION 01: IDENTIFICATION

PRODUCT CODE..... MUR0057  
 PRODUCT IDENTIFIER..... SHOCK N' SHINE  
 OTHER MEANS OF IDENTIFICATION..... N.A.V.  
 RECOMMENDED USE AND ..... MICROBIOCIDES/MICROBIOSTAT, DISINFECTANT, SANITIZER, BACTERICIDE,  
 RESTRICTIONS ON USE ..... FUNGICIDE, OR ALGAECIDE.  
 SUPPLIER IDENTIFIER..... MURSATT CHEMICALS LIMITED  
 11 REGALCREST COURT  
 WOODBRIDGE, ONTARIO  
 CANADA  
 L4L 8P3  
 EMERGENCY PHONE NO..... CANUTEC (613)-996-6666.

### SECTION 02: HAZARD IDENTIFICATION



HAZARD CLASSIFICATION..... OXIDIZING SOLIDS - CATEGORY 2. ACUTE TOXICITY (INHALATION) — CATEGORY 2. ACUTE TOXICITY (ORAL) - CATEGORY 4. SKIN CORROSION — CATEGORY 1C. CORROSIVE TO METALS - CATEGORY 1. SERIOUS EYE DAMAGE - CATEGORY 1. REPRODUCTIVE TOXICITY — CATEGORY 2. SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - CATEGORY 3 RESPIRATORY SYSTEM. ACUTE AQUATIC TOXICITY - CATEGORY 1. CHRONIC AQUATIC TOXICITY - CATEGORY 1.

SIGNAL WORD..... DANGER.

HAZARD STATEMENT..... H272 MAY INTENSIFY FIRE; OXIDIZER. H290 MAY BE CORROSIVE TO METALS. H361 SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. H302 HARMFUL IF SWALLOWED. H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. H318 CAUSES SERIOUS EYE DAMAGE. H330 FATAL IF INHALED. H335 MAY CAUSE RESPIRATORY IRRITATION. H400 VERY TOXIC TO AQUATIC LIFE. H410 VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRECAUTIONARY STATEMENT..... P201 OBTAIN SPECIAL INSTRUCTIONS BEFORE USE. P202 DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD. P308+P313 IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ATTENTION. P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. – NO SMOKING. P220 KEEP/STORE AWAY FROM CLOTHING/COMBUSTIBLE MATERIALS. P221 TAKE ANY PRECAUTION TO AVOID MIXING WITH COMBUSTIBLES.... P234 KEEP ONLY IN ORIGINAL CONTAINER. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P390 ABSORB SPILLAGE TO PREVENT MATERIAL DAMAGE. P406 STORE IN CORROSIVE RESISTANT CONTAINER WITH A RESISTANT INNER LINER. P370+P378 IN CASE OF FIRE: USE ONLY WATER FOR EXTINCTION. P260 DO NOT BREATHE DUST/FUME/GAS/MIST/VAPOURS/SPRAY. P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. P284 WEAR RESPIRATORY PROTECTION. P304+P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P321 SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID INSTRUCTIONS ON THE SAFETY DATA SHEET). P403+P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. P264 WASH SKIN THOROUGHLY AFTER HANDLING. P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. P301+P330+P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING. P301+P312 IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P363 WASH CONTAMINATED CLOTHING BEFORE REUSE. P305+P351+P338+P310 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P261 AVOID BREATHING DUST/FUME/GAS/MIST/VAPOURS/SPRAY. P405 STORE LOCKED UP. P501 DISPOSE OF CONTENTS/CONTAINER TO APPROPRIATE WASTE SITE OR RECLAIMER IN ACCORDANCE WITH LOCAL AND NATIONAL REGULATIONS.

OTHER HAZARDS..... DAMP OR WET MATERIAL MAY GENERATE NITROGEN TRICHLORIDE, AN EXPLOSION HAZARD. CONTACT WITH ACIDS LIBERATES TOXIC GAS.

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**SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	CAS #	WT. %
1,3,5-TRIAZINE-2,4,6 (1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT	2893-78-9	~73
SODIUM BICARBONATE	144-55-8	7
CITRIC ACID	77-92-9	10
BORIC ACID	10043-35-3	3
ALUMINUM SULFATE HYDRATE	16828-12-9	5

**SECTION 04: FIRST AID MEASURES**

## DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT.....	HOLD EYE OPEN AND RINSE SLOWLY WITH A STEADY, GENTLE STREAM OF WATER FOR 15 TO 20 MINUTES. REMOVE CONTACT LENSES, IF PRESENT, AFTER THE FIRST 5 MINUTES. THEN CONTINUE RINSING EYE. CALL A POISON CENTRE OR PHYSICIAN FOR TREATMENT ADVICE. .
SKIN CONTACT.....	TAKE OFF CONTAMINATED CLOTHING. WASH SKIN WITH PLENTY OF WATER FOR 15 TO 20 MINUTES. CALL A POISON CONTROL CENTER OR PHYSICIAN FOR TREATMENT ADVICE.
INHALATION.....	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 PHYSICIAN FOR TREATMENT ADVICE. .
INGESTION.....	CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY FOR TREATMENT ADVICE. DRINK PROMPTLY LARGE QUANTITIES OF WATER. DO NOT INDUCE VOMITING UNLESS TOLD TO DO SO BY POISON CONTROL CENTER OR PHYSICIAN. AVOID ALCOHOL. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. .
MOST IMPORTANT SYMPTOMS AND ..... EFFECTS, ACUTE OR DELAYED:	SEE SECTION 11.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NOTE TO PHYSICIAN: PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE.

**SECTION 05: FIRE FIGHTING MEASURES**

SUITABLE EXTINGUISHING MEDIA.....	FLOOD WITH COPIOUS AMOUNTS OF WATER.
UNSUITABLE EXTINGUISHING MEDIA.....	DO NOT USE ABC FIRE EXTINGUISHERS. DO NOT USE DRY CHEMICALS, CARBON DIOXIDE, OR HALOGENATED EXTINGUISHING AGENTS.
SPECIAL HAZARDS ARISING FROM THE PRODUCT:	NEGLECTIBLE FIRE HAZARD. IF HEATED BY OUTSIDE SOURCE TO TEMPERATURES ABOVE 240 C (464 F). THIS PRODUCT WILL UNDERGO DECOMPOSITION WITH THE EVOLUTION OF NOXIOUS GASES BUT NO VISIBLE FLAME. WET MATERIAL MAY GENERATE NITROGEN TRICHLORIDE, AN EXPLOSION HAZARD. DRY ALUM WILL DISSOLVE IN WATER TO FORM SULFURIC ACID WHICH REACTS WITH SOME METALS, ESPECIALLY WHEN DILUTE, TO GIVE FLAMMABLE, POTENTIALLY EXPLOSIVE HYDROGEN GAS. HYDROGEN GAS CAN ACCUMULATE TO EXPLOSIVE CONCENTRATIONS INSIDE CONFINED SPACES.
HAZARDOUS COMBUSTION PRODUCTS.	DECOMPOSES INTO HAZARDOUS GASES IN A FIRE. OXIDES OF SULPHUR. ALUMINUM OXIDES. CORROSIVE FUMES. MAY PRODUCE BORON COMPOUNDS IF INVOLVED IN A SURROUNDING FIRE. CARBON OXIDES (CO, CO2). SODIUM OXIDES.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS:	CONSIDER EVACUATION OF PERSONNEL LOCATED DOWNWIND. KEEP UNNECESSARY PEOPLE AWAY, ISOLATE HAZARD AREA AND DENY ENTRY. MOVE CONTAINER FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. AVOID INHALATION OF MATERIAL OR COMBUSTION BY-PRODUCTS. STAY UPWIND AND KEEP OUT OF LOW AREAS. WEAR NIOSH APPROVED POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS OPERATED ON PRESSURE DEMAND MODE. MATERIAL WHICH APPEARS UNDAMAGED EXCEPT FOR BEING DAMP ON THE OUTSIDE SHOULD BE OPENED AND INSPECTED IMMEDIATELY. DO NOT ATTEMPT TO RESEAL CONTAMINATED DRUMS. DAMP MATERIAL SHOULD BE NEUTRALIZED TO A NON OXIDIZING SLATE.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS.....	FOLLOW PROTECTIVE MEASURES INDICATED ON SECTION 8. EXPOSURE CONTROL - PERSONAL PROTECTION FOR BOTH EMERGENCY AND NON-EMERGENCY PERSONNEL.
ENVIRONMENTAL PRECAUTIONS.....	KEEP PRODUCT OUT OF SEWERS, WATERSHEDS, AND WATER SYSTEMS.

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**SECTION 06: ACCIDENTAL RELEASE MEASURES**

METHODS AND MATERIALS FOR ..... CONTAIN SPILLED MATERIAL. ANY SPILLAGE SHOULD BE CLEANED UP AS SOON AS POSSIBLE. DO NOT ADD WATER TO SPILLED MATERIAL. USING CLEAN, CONTAINMENT AND CLEANING UP DEDICATED EQUIPMENT, SWEEP AND SCOOP ALL SPILLED MATERIAL, CONTAMINATED SOIL, AND OTHER CONTAMINATED MATERIALS AND PLACE ONTO CLEAN, DRY CONTAINERS FOR DISPOSAL. DO NOT USE CLOSE DRUMS CONTAINING WET OR DAMP MATERIAL. THEY SHOULD BE LEFT OPEN TO DISPERSE ANY NITROGEN TRICHLORIDE THAT MAY FORM. DO NOT TRANSPORT WET OR DAMP MATERIAL. .

**SECTION 07: HANDLING AND STORAGE**

PRECAUTIONS FOR SAFE HANDLING:..... DO NOT GET ONTO EYES, ON SKIN OR ON CLOTHING. AVOID BREATHING DUST OR FUMES WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. NEVER ADD WATER TO PRODUCT. ALWAYS ADD PRODUCT TO LARGE QUANTITIES OF WATER. USE CLEAN DRY UTENSILS. DO NOT ADD THIS PRODUCT TO ANY DISPERSING DEVICE CONTAINING REMNANTS OF ANY OTHER PRODUCT. AVOID CONTAMINATION WITH MOISTURE, ORGANIC MATTER, OR OTHER CHEMICALS. AVOID RELEASE TO SEWERS, WATERSHEDS, AND WATER SYSTEMS THROUGH HANDLING. VAPOR SPACE IN CLOSED CONTAINER MAY CONTAIN A SLIGHT AMOUNT OF CHLORINE GAS AND OTHER CHLORINE CONTAINING COMPOUNDS FROM DECOMPOSITION OF PRODUCT. EXPOSURE TO CHLORINE GAS MAY CAUSE BURNING OF THE EYES WITH TEARING; BURNING OF THE NOSE AND MOUTH WITH RUNNY NOSE; AND IRRITATION OF THE LININGS OF THE ENTIRE RESPIRATORY TRACT WITH COUGHING, A CHOKING SENSATION, SUBSTERNAL PAIN, VOMITING, NAUSEA, HEADACHE, DIZZINESS AND FAINTING. THE ONSET OF SEVERE RESPIRATORY SYMPTOMS FOLLOWING EXPOSURE TO CHLORINE, INCLUDING PULMONARY EDEMA AND PNEUMONITIS, MAY BE DELAYED.

CONDITIONS FOR SAFE STORAGE, ..... DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE. KEEP MATERIAL INCLUDING ANY INCOMPATIBILITIES: DRY AND IN DRY AREA. STORE IN ORIGINAL CONTAINER, RETIE POLYETHYLENE LINER AND KEEP CONTAINER TIGHTLY CLOSED. STORE WHERE TEMPERATURES DO NOT EXCEED 125 F (52 C) FOR 24 HOURS.

**SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
1,3,5-TRIAZINE-2,4,6 (1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
SODIUM BICARBONATE	3 MG/M3 RESPIRABLE FRACTION; 10 MG/M3 TOTAL DUST.	N.AV.	5 MG/M3 RESPIRABLE FRACTION; 15 MG/M3 TOTAL DUST.	N.AV.	N.AV.	N.AV.
CITRIC ACID	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
BORIC ACID	15 MG/M3 TOTAL DUST; 5 MG/M3 RESPIRABLE DUST	N.AV.	15 MG/M3 TOTAL DUST; 5 MG/M3 RESPIRABLE DUST	N.AV.	N.AV.	N.AV.
ALUMINUM SULFATE HYDRATE	2 MG/M3 AS ALUMINUM (SOLUBLE SALTS)	N.AV.	2 MG/M3 AS ALUMINUM (SOLUBLE SALTS)	N.AV.	N.AV.	N.AV.

APPROPRIATE ENGINEERING CONTROLS GENERAL ROOM VENTILATION PLUS LOCAL EXHAUST AT POINTS OF EMISSION TO MINIMIZE EXPOSURE TO DUST OR VAPORS.

INDIVIDUAL PROTECTION MEASURE  
SUCH AS PERSONAL PROTECTIVE  
EQUIPMENTS:

HAND PROTECTION..... WEAR CHEMICAL RESISTANT GLOVES.  
RESPIRATORY PROTECTION..... AVOID BREATHING DUST OR VAPOR. WEAR AN OFFICIALLY APPROVED RESPIRATOR EQUIPPED WITH CHEMICAL CARTRIDGE FOR PROTECTION AGAINST CHLORINE GAS AND DUST. NIOSH/MSHA APPROVED RESPIRATOR, FOLLOWING MANUFACTURER'S RECOMMENDATIONS, SHOULD BE USED AS A PRECAUTIONARY MEASURE WHERE AIRBORNE CONTAMINANTS MAY OCCUR.

EYE PROTECTION..... WEAR CHEMICAL SAFETY GOGGLES.  
PROTECTIVE CLOTHING..... WEAR PROTECTIVE CLOTHING TO PREVENT SKIN CONTACT. LONG-SLEEVED SHIRT, LONG PANTS.

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**SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

PROTECTIVE FOOTWEAR..... WEAR CHEMICAL-RESISTANT BOOTS.  
 OTHER..... EYEWASH STATION AND SAFETY SHOWER IN WORK AREA.  
 HYGIENIC PRACTICES..... LAUNDRY CONTAMINATED CLOTHING AND WASH HANDS AND FACE AFTER USE. DISCARD CLOTHING OR OTHER ABSORBENT MATERIALS THAT HAVE BEEN DRENCHED OR HEAVILY CONTAMINATED WITH THIS PRODUCT'S CONCENTRATE. DO NOT REUSE THEM. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR CLEANING/MAINTAINING PPE. IF NO SUCH INSTRUCTIONS FOR WASHABLES, USE DETERGENT AND HOT WATER. KEEP AND WASH PPE SEPARATELY FROM OTHER LAUNDRY.

**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE..... SOLID. CRYSTALS/GRANULES.  
 COLOR..... WHITE.  
 ODOUR..... SLIGHT CHLORINE ODOR.  
 ODOUR THRESHOLD..... N.AV.  
 PH..... N.AV.  
 MELTING/FREEZING POINT..... DECOMPOSES WITHOUT MELTING @ 252 C (486 F).  
 BOILING POINT..... N.AP.  
 FLASH POINT (C), METHOD..... NONE.  
 EVAPORATION RATE..... N.AP.  
 FLAMMABILITY (SOLIDS AND GASES)..... N.AV.  
 UPPER FLAMMABLE LIMIT (% BY VOL.)... N.AP.  
 LOWER FLAMMABLE LIMIT (% BY VOL.)... N.AP.  
 VAPOUR PRESSURE (MMHG)..... N.AV.  
 VAPOUR DENSITY (AIR=1)..... N.AP.  
 RELATIVE DENSITY..... N.AV.  
 SOLUBILITY IN WATER (% W/W)..... SOLUBLE.  
 COEFFICIENT OF WATER/OIL DIST..... N.AV.  
 AUTO IGNITION TEMPERATURE..... N.AP.  
 DECOMPOSITION TEMPERATURE..... N.AV.  
 VISCOSITY..... N.AP.

**SECTION 10: STABILITY AND REACTIVITY**

REACTIVITY:..... HAZARDOUS POLYMERISATION WILL NOT OCCUR. THIS MATERIAL IS A STRONG OXIDIZING AGENT.  
 CHEMICAL STABILITY:..... STABLE UNDER NORMAL CONDITIONS OF HANDLING AND STORAGE.  
 POSSIBILITY OF HAZARDOUS REACTIONS:..... DO NOT GET WATER INSIDE CONTAINER. WET MATERIAL MAY GENERATE NITROGEN TRICHLORIDE, AN EXPLOSION HAZARD. AVOID CONTACT WITH EASILY OXIDIZABLE ORGANIC MATERIAL. CONTACT WITH ACIDS LIBERATES TOXIC GAS. THE PREPARATION OF CONCENTRATED SOLUTIONS OR SLURRIES IS NOT RECOMMENDED. AVOID CONTACT WITH WATER ON CONCENTRATED MATERIAL IN THE CONTAINER. CONTACT WITH WATER FORMS SULPHURIC ACID. EXPOSURE TO MOISTURE OR MOIST AIR. EXPOSURE TO HIGH TEMPERATURES.  
 CONDITIONS TO AVOID.....  
 INCOMPATIBLE MATERIALS:..... EASILY OXIDIZABLE ORGANIC MATERIAL; AMMONIA, UREA OR SIMILAR NITROGEN CONTAINING COMPOUNDS; INORGANIC REDUCING COMPOUNDS; FLOOR SWEEPING COMPOUNDS; CALCIUM HYPOCHLORITE; ALKALIS. ACIDS. WATER. LIME. ALUMINUM. CARBONATES. STRONG OXIDIZERS. ALUMINUM ALLOYS. ZINC AND ITS ALLOYS. METAL NITRATES. BICARBONATES. BORIC ACID REACTS WITH STRONG REDUCING AGENTS SUCH AS METAL HYDRIDES OR ALKALI METALS PRODUCING EXPLOSIVE HYDROGEN GAS. STRONG BASES. STRONG OXIDIZING AGENTS. ALKALIS. WATER-REACTIVE MATERIALS SUCH AS OLEUM CAUSE EXOTHERMIC REACTIONS.  
 HAZARDOUS PRODUCTS OF DECOMPOSITION ..... BORATES. CHLORINE CONTAINING GASES CAN BE PRODUCED. AT HIGH TEMPERATURE MAY LIBERATE TOXIC GASES. AT TEMPERATURES ABOVE 760°C, SULFUR OXIDE GASES ARE RELEASED WHICH ARE TOXIC, CORROSIVE AND ARE OXIDIZERS. THE REMAINING RESIDUE IS CAUSTIC. THE TRIOXIDE IS ALSO A FIRE HAZARD. OXIDES OF ALUMINUM.

**SECTION 11: TOXICOLOGICAL INFORMATION**

INGREDIENTS	LC50	LD50
1,3,5-TRIAZINE-2,4,6 (1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT	SEE SECTION 11	SEE SECTION 11
SODIUM BICARBONATE	> 4.7 MG/L/4H (IHL, RAT)	7.3 G/KG (ORAL, RAT)
CITRIC ACID	N.AV.	5040 MG/KG (ORAL, MOUSE); 30000 MG/KG (ORAL, RAT)

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## SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
BORIC ACID	N.AV.	2660 MG/KG (ORAL, RAT); >2000 MG/KG (DERMAL, RABBIT)
ALUMINUM SULFATE HYDRATE	N.AV.	>9000 MG/KG (ORAL, RAT); >9000 MG/KG (ORAL, MOUSE)
LD 50 OF MATERIAL, SPECIES & ROUTE.	FOR 1,3,5-TRIAZINE-2,4,6 (1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT: 1823 MG/KG BW (ORAL, RAT); >2000 MG/KG BW (DERMAL, RABBIT).	
LC 50 OF MATERIAL, SPECIES & ROUTE.	FOR 1,3,5-TRIAZINE-2,4,6 (1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT: 0.27 - 1.17 MG/L 4H (INH, RAT).	
INFORMATION ON LIKELY ROUTES OF ENTRY:		
SKIN CONTACT.....	CAN CAUSE SEVERE IRRITATION AND/OR BURNS, CHARACTERIZED BY REDNESS, SWELLING AND SCAB FORMATION.	
SKIN ABSORPTION.....	N.AV.	
EYE CONTACT.....	EXPOSURE TO SOLID ALONG WITH MOISTURE MAY CAUSE REDNESS, IRRITATION, BURNING SENSATION, SWELLING, BLISTER FORMATION, FIRST, SECOND, OR THIRD DEGREE BURNS. DRY MATERIAL IS LESS IRRITATING THAN WET MATERIAL. THIS MATERIAL IS NOT A SKIN SENSITIZER BASED ON STUDIES WITH GUINEA PIGS. .	
INHALATION.....	THIS MATERIAL IN THE FORM AS SOLID IS NOT EXPECTED TO PRODUCE RESPIRATORY EFFECTS. PARTICLES F RESPIRABLE SIZE ARE GENERALLY NOT ENCOUNTERED. THE RESPIRABLE FRACTION IS TYPICALLY LESS THAN 0.1% BY WEIGHT FOR THE GRANULAR GRADES. IF GROUND OR OTHERWISE IN A POWDERED FORM, EFFECTS SIMILAR TO CORROSIVE SUBSTANCE MAY OCCUR. EXPOSURE TO THE SOLID PRODUCT OR TO FREE CHLORINE EVOLVING FROM THE PRODUCT MAY CAUSE IRRITATION. REDNESS OF UPPER AND LOWER AIRWAY, COUGHING, LARYNGEOSPASM AND EDEMA. SHORTNESS OF BREATH. BRONCHOCONSTRICTION. AND POSSIBLE PULMONARY EDEMA. THE PULMONARY EDEMA MAY DEVELOP SEVERAL HOURS AFTER A SEVERE ACUTE EXPOSURE. EXPOSURE BY INGESTION MAY CAUSE IRRITATION, NAUSEA AND VOMITING. MAY CAUSE LOCAL TISSUE DAMAGE TO EPIGLOTTIS. MUCUS MEMBRANES OF THE MOUTH, ESOPHAGUS AND STOMACH SUCH AS BURNING. INFLAMMATION, LOCAL ULCERATION, AND MAY CAUSE GASTROINTESTINAL BLEEDING.	
INGESTION.....		
EFFECTS OF ACUTE EXPOSURE.....	SEE ABOVE.	
EFFECTS OF CHRONIC EXPOSURE.....	NONE IDENTIFIED FOR THE PARENT CHEMICAL. BASED ON ANIMAL STUDIES. EXPOSURE TO CONCENTRATIONS OF MONOSODIUM CYANURATE AT THE SOLUBILITY LIMIT MAY CAUSE CARDIOVASCULAR, KIDNEY AND URINARY BLADDER EFFECTS. PROLONGED CONTACT MAY CAUSE IRRITATION OF THE EYES AND SKIN PROLONGED CONTACT MAY CAUSE SKIN AND EYE IRRITATION.	
SIGNS AND SYMPTOMS OF OVEREXPOSURE		
CARCINOGENICITY OF MATERIAL.....	IARC: NOT LISTED.	
TERATOGENICITY.....	N.AV.	
MUTAGENICITY.....	NOT CLASSIFIED AS A MUTAGEN PER GHS CRITERIA. NOT MUTAGENIC IN SALMONELLA STRAINS AND 1 E. COLI STRAIN WITH OR WITHOUT MAMMALIAN MICROSOMAL ACTIVATION.	
REPRODUCTIVE EFFECTS.....	BORIC ACID: REPRODUCTIVE TOXIN CATEGORY 1B BASED ON EU CLP CLASSIFICATION. DIETARY LEVELS OF BORIC ACID OF 6,700 PPM IN CHRONIC FEEDING STUDIES IN RATS AND DOGS PRODUCED TESTICULAR CHANGES (WEIR, FISHER, 1972). IN CHRONIC FEEDING STUDIES OF MICE ON DIETS CONTAINING 5,000 PPM BORIC ACID, TESTICULAR ATROPHY WAS PRESENT, WHILE MICE FED 2,500 PPM SODIUM TETRABORATE PENTAHYDRATE SHOWED NO SIGNIFICANT INCREASE IN TESTICULAR ATROPHY. IN ANOTHER CHRONIC BORIC ACID STUDY, DEGENERATION OF SEMINIFEROUS TUBULES WAS PRESENT TOGETHER WITH A REDUCTION OF GERM CELLS IN MICE FED 4,500 PPM SODIUM TETRABORATE PENTAHYDRATE. BORIC ACID AT DIETARY LEVELS OF 1,000 PPM ADMINISTERED TO PREGNANT FEMALE RATS THROUGHOUT GESTATION CAUSED A SLIGHT REDUCTION IN FETAL WEIGHT, BUT WAS CONSIDERED CLOSE TO THE NO OBSERVABLE AFFECT LEVEL. DOSES OF 2,000 PPM AND ABOVE CAUSED FETAL MALFORMATIONS AND MATERNAL TOXICITY. IN MICE, THE NO EFFECT LEVEL FOR FETAL WEIGHT REDUCTION AND MATERNAL TOXICITY WAS 1,000 PPM BORIC ACID. FETAL WEIGHT LOSS WAS NOTED AT DIETARY LEVELS OF 2,000 PPM AND ABOVE. MALFORMATIONS (AGENESIS OR SHORTENING OF THE THIRTEENTH RIB) WERE SEEN AT 4,000 PPM [HEINDAL ET AL., 1992]. THE DOSES ADMINISTERED WERE MANY TIMES IN EXCESS OF THOSE TO WHICH HUMANS WOULD NORMALLY BE EXPOSED.	
SENSITIZING CAPABILITY OF MATERIAL	N.AV.	
SYNERGISTIC MATERIALS.....	N.AV.	

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**SECTION 11: TOXICOLOGICAL INFORMATION**

ADDITIONAL INFORMATION..... ALUMINUM SULPHATE HAS BEEN SHOWN TO CAUSE LIVER, KIDNEY AND NERVOUS SYSTEM TOXICITY WHEN TESTED IN LABORATORY ANIMALS. REPEATED INGESTION MAY CAUSE PHOSPHATE DEFICIENCY, WHICH CAN WEAKEN BONES. ALUMINUM SULPHATE HAS BEEN SHOWN TO CAUSE AN INCREASE IN CHROMOSOMAL BREAKS WHEN TESTED IN RAT SOMATIC CELLS IN VIVO AND TO INDUCE SISTER CHROMATID EXCHANGES, CHROMOSOMAL ABERRATIONS AND MICRONUCLEI IN HUMAN LEUKOCYTES UNDER IN VITRO CONDITIONS. SKIN IRRITATION MAY BE AGGRAVATED IN INDIVIDUALS WITH EXISTING SKIN LESIONS. BREATHING OF DUST MAY AGGRAVATE ACUTE OR CHRONIC ASTHMA AND CHRONIC PULMONARY DISEASE SUCH AS EMPHYSEMA AND BRONCHITIS.

**SECTION 12: ECOLOGICAL CONSIDERATIONS**

ECOTOXICITY..... N.AV.  
 PERSISTENCE AND DEGRADATION..... N.AV.  
 BIOACCUMULATIVE POTENTIAL..... N.AV.  
 MOBILITY IN SOIL..... N.AV.  
 OTHER ADVERSE EFFECTS..... N.AV.

**SECTION 13: DISPOSAL CONSIDERATIONS**

WASTE TREATMENT METHODS:..... DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

**SECTION 14: TRANSPORT INFORMATION**

UN NUMBER  
 PROPER SHIPPING NAME..... OXIDIZING SOLID, CORROSIVE, N.O.S. (DICHLOROISOCYANURIC ACID, ALUMINUM SULPHATE HYDRATE).  
 TDG CLASSIFICATION..... 5.1 (8).  
 PACKING GROUP..... II.  
 ENVIRONMENTAL HAZARDS ACCORDING TO THE INTERNATIONAL MARITIME DANGEROUS GOODS CODE AND THE UNITED NATIONS MODEL REGULATIONS: MARINE POLLUTANT.  
 SPECIAL PRECAUTIONS IN CONNECTION WITH TRANSPORT OR CONVEYANCE EITHER WITHIN OR OUTSIDE THE PREMISES: N.AV.

**SECTION 15: REGULATORY INFORMATION**

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC TO THE PRODUCT: N.AV.

**SECTION 16: OTHER INFORMATION**

N.AV.=NOT AVAILABLE  
 N.AP.=NOT APPLICABLE  
 OTHER INFORMATION.....

THE DATA IN THIS MSDS RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DOES NOT RELATE TO USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PROCESS. THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS PRODUCT SPECIFICATIONS. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.

PREPARED BY..... REGULATORY AFFAIRS  
 PREPARATION DATE..... JUN 14/2017