



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

PRODUCT: SPA-SHOCK

CODE: MUR0013

### SECTION 01: IDENTIFICATION

PRODUCT CODE..... MUR0013  
 PRODUCT IDENTIFIER..... SPA-SHOCK  
 OTHER MEANS OF IDENTIFICATION..... N.A.V.  
 RECOMMENDED USE AND RESTRICTIONS ON USE..... FORMULATION AND CHEMICAL SYNTHESIS IN INDUSTRIAL MANUFACTURING OPERATIONS; ADDITIVE FOR PREPARATIONS AND ARTICLES FOR INDUSTRIAL AND CONSUMER USE. DO NOT USE FOR PRIVATE PURPOSES (HOUSEHOLD).  
 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 3. SKIN CORROSION - CATEGORY 1B. SERIOUS EYE DAMAGE - CATEGORY 1. ACUTE AQUATIC TOXICITY - CATEGORY 1.  
 SIGNAL WORD..... DANGER.  
 HAZARD STATEMENT..... H272 MAY INTENSIFY FIRE; OXIDIZER. H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. H400 VERY TOXIC TO AQUATIC LIFE.  
 PRECAUTIONARY STATEMENT..... P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. – NO SMOKING. P221 TAKE ANY PRECAUTION TO AVOID MIXING WITH COMBUSTIBLES.... P220 KEEP/STORE AWAY FROM CLOTHING/COMBUSTIBLE MATERIALS. P260 DO NOT BREATHE DUST/FUME/GAS/MIST/VAPOURS/SPRAY. P264 WASH SKIN THOROUGHLY AFTER HANDLING. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P301+P330+P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING. P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. P303+P361+P353 IF ON SKIN (OR HAIR): REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. P304+P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. P363 WASH CONTAMINATED CLOTHING BEFORE REUSE. P370+P378 IN CASE OF FIRE: USE ONLY WATER FOR EXTINCTION. P405 STORE LOCKED UP. P501 DISPOSE OF CONTENTS/CONTAINER TO APPROPRIATE WASTE SITE OR RECLAIMER IN ACCORDANCE WITH LOCAL AND NATIONAL REGULATIONS.  
 OTHER HAZARDS..... NONE.

### SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
LITHIUM HYPOCHLORITE	13840-33-0	15-40
SODIUM CHLORIDE	7647-14-5	15-40
SODIUM SULFATE	7757-82-6	10-30
LITHIUM CHLORIDE	7447-41-8	1-5
LITHIUM CARBONATE	554-13-2	1-5
LITHIUM CHLORATE	36355-96-1	1-5
LITHIUM HYDROXIDE	1310-65-2	1-5

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**SECTION 04: FIRST AID MEASURES**

## DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT.....	HOLD EYELIDS OPEN AND RINSE SLOWLY AND GENTLY WITH A STREAM OF WATER FOR 15 MINUTES. REMOVE CONTACT LENSES, IF PRESENT, AFTER THE FIRST 5 MINUTES, THEN CONTINUE TO RINSE THE EYE. CALL A PHYSICIAN OR POISON CONTROL CENTER FOR TREATMENT ADVICE.
SKIN CONTACT.....	TAKE OFF CONTAMINATED CLOTHING. RINSE SKIN IMMEDIATELY WITH PLENTY OF WATER FOR 15-20 MINUTES. WASH WITH PLENTY OF SOAP AND WATER. CALL A PHYSICIAN OR POISON CONTROL CENTER FOR TREATMENT ADVICE.
INHALATION.....	REMOVE PERSON TO FRESH AIR. IF NOT BREATHING, CALL 911 OR AMBULANCE AND THEN GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH, IF POSSIBLE. CALL A PHYSICIAN OR POISON CONTROL CENTER FOR TREATMENT ADVICE.
INGESTION.....	IMMEDIATELY CALL A PHYSICIAN OR POISON CONTROL CENTER FOR TREATMENT ADVICE. DO NOT INDUCE VOMITING UNLESS INSTRUCTED BY PHYSICIAN OR POISON CONTROL CENTER. PROMPTLY DRINK LARGE QUANTITIES OF WATER IF ABLE TO SWALLOW. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. AVOID ALCOHOL.
MOST IMPORTANT SYMPTOMS AND EFFECTS, ACUTE OR DELAYED: INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	THIS PRODUCT IS CORROSIVE. NOTES TO MEDICAL DOCTOR: LITHIUM HYPOCHLORITE IS CORROSIVE TO EYES, SKIN AND MUCOUS MEMBRANES WITH CHEMICAL BURNS (CAUSTIC). TREATMENT IS DILUTION/FLUSHING OF SITE WITH COPIOUS AMOUNTS OF WATER WITH CONTROLLED REMOVAL OF EXPOSURE FOLLOWED BY SYMPTOMATIC AND SUPPORTIVE CARE TO MAINTAIN LIFE FUNCTIONS. CONSIDERATION SHOULD BE GIVEN TO CAREFUL ENDOSCOPY AS STOMACH OR ESOPHAGEAL BURNS, PERFORATIONS OR STRICTURES MAY OCCUR. PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE. CAREFUL GASTRIC LAVAGE WITH AN ENDOTRACHEAL TUBE IN PLACE SHOULD BE CONSIDERED. OBSERVATION MAY BE WARRANTED.

**SECTION 05: FIRE FIGHTING MEASURES**

SUITABLE EXTINGUISHING MEDIA.....	USE WATER ONLY.
UNSUITABLE EXTINGUISHING MEDIA.....	DO NOT USE DRY CHEMICAL, CO2 OR HALON.
SPECIAL HAZARDS ARISING FROM THE PRODUCT:	STRONG OXIDIZER. CONTACT WITH EASILY OXIDIZABLE OR COMBUSTIBLE MATERIALS CAN CAUSE FIRE OR EXPLOSION UPON IGNITION FROM ANY SOURCE.
HAZARDOUS COMBUSTION PRODUCTS, SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS:	OXYGEN AND TOXIC CHLORINE VAPORS. CORROSIVE LITHIUM HYDROXIDE DUST. WEAR FULL PROTECTIVE CLOTHING AND SELF-CONTAINED BREATHING APPARATUS (SCBA) APPROVED FOR FIRE FIGHTING. THIS IS NECESSARY TO PROTECT AGAINST THE HAZARDS OF HEAT, PRODUCTS OF COMBUSTION AND OXYGEN DEFICIENCY. DO NOT BREATHE SMOKE, GASES OR VAPORS GENERATED.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS.....	BEFORE CLEANUP MEASURES BEGIN, REVIEW THE ENTIRE SDS WITH PARTICULAR ATTENTION TO SECTION 2, HAZARDS IDENTIFICATION; AND SECTION 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.
ENVIRONMENTAL PRECAUTIONS.....	DO NOT WASH INTO DRAINS. DISPOSE OF AT QUALIFIED WASTE DISPOSAL FACILITY.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	KEEP COMBUSTIBLES (WOOD, PAPER, OIL ETC.) AWAY FROM SPILLED MATERIAL. WITH CLEAN SHOVEL, PLACE INTO CLEAN DRY CONTAINER, AND COVER LOOSELY.

**SECTION 07: HANDLING AND STORAGE**

PRECAUTIONS FOR SAFE HANDLING:.....	DO NOT GET IN EYES, ON SKIN OR CLOTHING. AVOID BREATHING DUST. WASH THOROUGHLY AFTER HANDLING.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:	STORE AWAY FROM READILY OXIDIZABLE MATERIALS, STRONG ACIDS AND FLAMMABLE MATERIALS. PROTECT FROM MOISTURE. KEEP CONTAINER CLOSED.

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

INGREDIENTS	TWA	ACGIH TLV STEL	REL	OSHA PEL STEL	NIOSH
LITHIUM HYPOCHLORITE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.

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

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
SODIUM CHLORIDE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
SODIUM SULFATE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
LITHIUM CHLORIDE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
LITHIUM CARBONATE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
LITHIUM CHLORATE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.
LITHIUM HYDROXIDE	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.	N.AV.

APPROPRIATE ENGINEERING CONTROLS USE LOCAL EXHAUST VENTILATION TO KEEP AIRBORNE CONCENTRATIONS BELOW EXPOSURE LIMITS.

INDIVIDUAL PROTECTION MEASURE  
SUCH AS PERSONAL PROTECTIVE  
EQUIPMENTS:

HAND PROTECTION.....	NITRILE (TYPICAL PERMEATION BREAKTHROUGH TIME >480 MINUTES). THESE GLOVE RECOMMENDATIONS SHOULD NOT BE USED AS THE ABSOLUTE BASIS FOR GLOVE SELECTION. ACTUAL IN-USE CONDITIONS MAY VARY GLOVE PERFORMANCE FROM THE CONTROLLED CONDITIONS OF LABORATORY TESTS. FACTORS SUCH AS CONCENTRATION AND TEMPERATURE, GLOVE THICKNESS AND GLOVE REUSE, MAY AFFECT PERFORMANCE. OTHER GLOVE REQUIREMENTS, SUCH AS LENGTH, DEXTERITY, CUT, ABRASION, PUNCTURE AND SNAG RESISTANCE, OR GLOVE GRIP NEED TO BE CONSIDERED IN MAKING YOUR FINAL SELECTION.
RESPIRATORY PROTECTION.....	WHEN ENGINEERING CONTROLS ARE NOT ADEQUATE, WEAR A RESPIRATOR APPROVED FOR PROTECTION AGAINST INORGANIC DUSTS. SEE EXPOSURE SCENARIO FOR MORE DETAILS. USA: NIOSH OR MSHA APPROVED EUROPE: CEN CLASS P TYPE.
EYE PROTECTION.....	SAFETY GLASSES OR GOGGLES.
PROTECTIVE CLOTHING.....	IMPERVIOUS PROTECTIVE CLOTHING.
PROTECTIVE FOOTWEAR.....	IMPERVIOUS FOOTWEAR.
OTHER.....	EYE WASH FOUNTAIN AND SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA.
HYGIENIC PRACTICES.....	USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, OR SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE CONTAMINATED CLOTHING AND WASH THOROUGHLY BEFORE REUSE.

**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE.....	WHITE, GRANULAR SOLID.
COLOR.....	WHITE.
ODOUR.....	BURNING, CHLORINE-LIKE ODOUR.
PH.....	(1% SOLUTION) @ 25°C: 11.
MELTING/FREEZING POINT.....	DECOMPOSES @ 135°C (275°F).
BOILING POINT.....	N.A.P.
FLASH POINT (C), METHOD.....	N.A.P.
EVAPORATION RATE.....	N.A.P.
FLAMMABILITY (SOLIDS AND GASES).....	OXIDIZER. PROMOTES COMBUSTION. CONTACT WITH COMBUSTIBLE MATERIALS MAY CAUSE FIRE.
UPPER FLAMMABLE LIMIT (% BY VOL.)...	N.A.P.
LOWER FLAMMABLE LIMIT (% BY VOL.)...	N.A.P.
VAPOUR PRESSURE (MMHG).....	N.A.P.
VAPOUR DENSITY (AIR=1)	
RELATIVE DENSITY.....	0.9 - 1.0.
SOLUBILITY IN WATER (% W/W).....	43 % BY WT. @ 25°C (77°F).
COEFFICIENT OF WATER/OIL DIST.....	N.A.P.
AUTO IGNITION TEMPERATURE.....	N.A.P.
DECOMPOSITION TEMPERATURE.....	DECOMPOSES @ 135°C (275°F).
VISCOSITY.....	N.A.P.

**SECTION 10: STABILITY AND REACTIVITY**

REACTIVITY:.....	OXIDIZER. KEEP FROM COMBUSTIBLE MATERIALS, ACIDS AND OXIDIZABLE MATERIALS.
CHEMICAL STABILITY:.....	STABLE AT ROOM TEMPERATURE.
POSSIBILITY OF HAZARDOUS REACTIONS:	HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

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**SECTION 10: STABILITY AND REACTIVITY**

CONDITIONS TO AVOID..... CONTACT WITH COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL). CONTAMINATION WITH MOISTURE.  
 INCOMPATIBLE MATERIALS:..... ACIDS, OXIDIZABLE MATERIALS, COMBUSTIBLE MATERIALS.  
 HAZARDOUS PRODUCTS OF DECOMPOSITION..... OXYGEN, LITHIUM HYDROXIDE, LITHIUM CHLORATES.

**SECTION 11: TOXICOLOGICAL INFORMATION**

INGREDIENTS	LC50	LD50
LITHIUM HYPOCHLORITE	N.AV.	N.AV.
SODIUM CHLORIDE	N.AV.	N.AV.
SODIUM SULFATE	N.AV.	N.AV.
LITHIUM CHLORIDE	N.AV.	N.AV.
LITHIUM CARBONATE	N.AV.	N.AV.
LITHIUM CHLORATE	N.AV.	N.AV.
LITHIUM HYDROXIDE	N.AV.	N.AV.
INFORMATION ON LIKELY ROUTES OF ENTRY:		
SKIN CONTACT.....	CLASSIFIED AS CORROSIVE, CATEGORY 1B ON THE BASIS OF DATA FOR THE FORMULATION.	
SKIN ABSORPTION		
EYE CONTACT.....	CLASSIFIED AS CORROSIVE TO EYES ON THE BASIS OF DATA FOR THE FORMULATION.	
INHALATION.....	INHALATION LC50: LITHIUM HYPOCHLORITE FORMULATION: 2.0 MG/L (RAT).	
INGESTION.....	N.AV.	
EFFECTS OF ACUTE EXPOSURE.....	THIS PRODUCT IS SEVERELY IRRITATING/CORROSIVE TO THE EYES (MAY CAUSE BLINDNESS), SKIN, RESPIRATORY TRACT, AND MUCOUS MEMBRANES.	
EFFECTS OF CHRONIC EXPOSURE.....	CONTINUOUS INHALATION EXPOSURE MAY CAUSE LUNG DAMAGE.	
SIGNS AND SYMPTOMS OF OVEREXPOSURE		
CARCINOGENICITY OF MATERIAL.....	EH40: NOT LISTED. IARC: NOT LISTED. NTP: NOT LISTED. OSHA: NOT CONSIDERED A CARCINOGEN UNDER OSHA. ACGIH: NOT LISTED.	
TERATOGENICITY.....	N.AV.	
MUTAGENICITY.....	N.AV.	
REPRODUCTIVE EFFECTS.....	CLASSIFIED AS NOT A REPRODUCTIVE TOXIN BASED ON LITHIUM HYPOCHLORITE.	
SENSITIZING CAPABILITY OF MATERIAL	CLASSIFIED AS NOT SENSITIZING TO SKIN ON THE BASIS OF DATA FOR THE FORMULATION.	
SYNERGISTIC MATERIALS.....	N.AV.	

**SECTION 12: ECOLOGICAL CONSIDERATIONS**

ECOTOXICOLOGICAL INFORMATION..... LITHIUM - MALLARD DUCK: ACUTE ORAL LD50 = 1,960 MG/KG [FMC I87-0992]; 5 DAY DIETARY LC50 > 17,240 PPM (NO DEATHS AT MAXIMUM DOSE). FORMULATION - . BOBWHITE QUAIL: 5 DAY DIETARY LC50 > 17,240 PPM. RAINBOW TROUT: 96 HOUR LC50 0.69 MG/L. BLUEGILL: 96 HOUR LC50 = 0.97 MG/L. DAPHNIA: 48 HOUR LC50 = 0.37 µG/L.

**SECTION 13: DISPOSAL CONSIDERATIONS**

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

**SECTION 14: TRANSPORT INFORMATION**

UN NUMBER..... 1479.  
 PROPER SHIPPING NAME..... OXIDIZING SOLID, N. O. S. (LITHIUM HYPOCHLORITE, MIXTURE).  
 TDG CLASSIFICATION..... 5.1.  
 PACKING GROUP..... III.  
 ENVIRONMENTAL HAZARDS ACCORDING TO THE INTERNATIONAL MARITIME DANGEROUS GOODS CODE AND THE UNITED NATIONS MODEL REGULATIONS: MARINE POLLUTANT.

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**SECTION 14: TRANSPORT INFORMATION**

SPECIAL PRECAUTIONS IN CONNECTION N.A.V.  
WITH TRANSPORT OR CONVEYANCE  
EITHER WITHIN OR OUTSIDE THE  
PREMISES:

**SECTION 15: REGULATORY INFORMATION**

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

**SECTION 16: OTHER INFORMATION**

N.A.V.=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.....  
PREPARATION DATE.....

REGULATORY AFFAIRS  
APR 18/2017