



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

PRODUCT: BROME-ADD

CODE: MUR0002

SECTION 01: IDENTIFICATION

PRODUCT CODE..... MUR0002
 PRODUCT IDENTIFIER..... BROME-ADD
 OTHER MEANS OF IDENTIFICATION..... N.AV.
 RECOMMENDED USE AND WATER TREATMENT WITH BROMINE GENERATOR SYSTEMS.
 RESTRICTIONS ON USE
 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..... NOT HAZARDOUS.
 SIGNAL WORD..... NOT HAZARDOUS.
 HAZARD STATEMENT..... N.AP.
 PRECAUTIONARY STATEMENT..... N.AP.
 OTHER HAZARDS..... NONE.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
SODIUM BROMIDE	7647-15-6	10-40

SECTION 04: FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT..... CHECK FOR AND REMOVE ANY CONTACT LENSES. IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT..... IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE. CLEAN SHOES THOROUGHLY BEFORE REUSE. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION..... MOVE EXPOSED PERSON TO FRESH AIR. IF NOT BREATHING, IF BREATHING IS IRREGULAR OR IF RESPIRATORY ARREST OCCURS, PROVIDE ARTIFICIAL RESPIRATION OR OXYGEN BY TRAINED PERSONNEL. LOOSEN TIGHT CLOTHING SUCH AS A COLLAR, TIE, BELT OR WAISTBAND. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION..... WASH OUT MOUTH WITH WATER. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

MOST IMPORTANT SYMPTOMS AND SEE SECTION 11.
 EFFECTS, ACUTE OR DELAYED:
 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED
 PROTECTION OF FIRST-AIDERS..... NOTES TO PHYSICIAN - NO SPECIFIC TREATMENT. TREAT SYMPTOMATICALLY. CONTACT POISON TREATMENT SPECIALIST IMMEDIATELY IF LARGE QUANTITIES HAVE BEEN INGESTED OR INHALED. NO ACTION SHALL BE TAKEN INVOLVING ANY PERSONAL RISK OR WITHOUT SUITABLE TRAINING. IF IT IS SUSPECTED THAT FUMES ARE STILL PRESENT, THE RESCUER SHOULD WEAR AN APPROPRIATE MASK OR SELF-CONTAINED BREATHING APPARATUS. IT MAY BE DANGEROUS TO THE PERSON PROVIDING AID TO GIVE MOUTH-TO-MOUTH RESUSCITATION. WASH CONTAMINATED CLOTHING THOROUGHLY WITH WATER BEFORE REMOVING IT, OR WEAR GLOVES.

SECTION 05: FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA..... USE AN EXTINGUISHING AGENT SUITABLE FOR THE SURROUNDING FIRE.
 UNSUITABLE EXTINGUISHING MEDIA..... NONE KNOWN.
 SPECIAL HAZARDS ARISING FROM THE PRODUCT: NO SPECIFIC FIRE OR EXPLOSION HAZARD.
 HAZARDOUS COMBUSTION PRODUCTS. DECOMPOSITION PRODUCTS MAY INCLUDE HALOGENATED COMPOUNDS, METAL OXIDE/OXIDES.

PRODUCT: BROME-ADD

CODE: MUR0002

SECTION 05: FIRE FIGHTING MEASURES

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: FIRE-FIGHTERS SHOULD WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS (SCBA) WITH A FULL FACE-PIECE OPERATED IN POSITIVE PRESSURE MODE. PROMPTLY ISOLATE THE SCENE BY REMOVING ALL PERSONS FROM THE VICINITY OF THE INCIDENT IF THERE IS A FIRE. NO ACTION SHALL BE TAKEN INVOLVING ANY PERSONAL RISK OR WITHOUT SUITABLE TRAINING.

SECTION 06: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS..... NO ACTION SHALL BE TAKEN INVOLVING ANY PERSONAL RISK OR WITHOUT SUITABLE TRAINING. EVACUATE SURROUNDING AREAS. KEEP UNNECESSARY AND UNPROTECTED PERSONNEL FROM ENTERING. DO NOT TOUCH OR WALK THROUGH SPILLED MATERIAL. PROVIDE ADEQUATE VENTILATION. WEAR APPROPRIATE RESPIRATOR WHEN VENTILATION IS INADEQUATE. PUT ON APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (SEE SECTION 8).

ENVIRONMENTAL PRECAUTIONS..... AVOID DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. INFORM THE RELEVANT AUTHORITIES IF THE PRODUCT HAS CAUSED ENVIRONMENTAL POLLUTION (SEWERS, WATERWAYS, SOIL OR AIR).

METHODS AND MATERIALS FOR MOVE CONTAINERS FROM SPILL AREA. VACUUM OR SWEEP UP MATERIAL AND CONTAINMENT AND CLEANING UP PLACE IN A DESIGNATED, LABELED WASTE CONTAINER. DISPOSE OF VIA A LICENSED WASTE DISPOSAL CONTRACTOR.

SECTION 07: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:..... PUT ON APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (SEE SECTION 8). EATING, DRINKING AND SMOKING SHOULD BE PROHIBITED IN AREAS WHERE THIS MATERIAL IS HANDLED, STORED AND PROCESSED. WORKERS SHOULD WASH HANDS AND FACE BEFORE EATING, DRINKING AND SMOKING. DO NOT INGEST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING DUST. USE ONLY WITH ADEQUATE VENTILATION. WEAR APPROPRIATE RESPIRATOR WHEN VENTILATION IS INADEQUATE. KEEP IN THE ORIGINAL CONTAINER OR AN APPROVED ALTERNATIVE MADE FROM A COMPATIBLE MATERIAL, KEPT TIGHTLY CLOSED WHEN NOT IN USE. EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE HAZARDOUS. DO NOT REUSE CONTAINER.

CONDITIONS FOR SAFE STORAGE, STORE IN ACCORDANCE WITH LOCAL REGULATIONS. STORE IN ORIGINAL INCLUDING ANY INCOMPATIBILITIES: CONTAINER PROTECTED FROM DIRECT SUNLIGHT IN A DRY, COOL AND WELL-VENTILATED AREA, AWAY FROM INCOMPATIBLE MATERIALS AND FOOD AND DRINK. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. CONTAINERS THAT HAVE BEEN OPENED MUST BE CAREFULLY RESEALED AND KEPT UPRIGHT TO PREVENT LEAKAGE. DO NOT STORE IN UNLABELED CONTAINERS. USE APPROPRIATE CONTAINMENT TO AVOID ENVIRONMENTAL CONTAMINATION.

SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
-------------	-----	-------------------	-----	------------------	-----	-------

SODIUM BROMIDE N.A.V. N.A.V. N.A.V. N.A.V. N.A.V.

APPROPRIATE ENGINEERING CONTROLS USE ONLY WITH ADEQUATE VENTILATION. IF USER OPERATIONS GENERATE DUST, FUMES, GAS, VAPOR OR MIST, USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP WORKER EXPOSURE TO AIRBORNE CONTAMINANTS BELOW ANY RECOMMENDED OR STATUTORY LIMITS. ENVIRONMENTAL EXPOSURE CONTROLS - EMISSIONS FROM VENTILATION OR WORK PROCESS EQUIPMENT SHOULD BE CHECKED TO ENSURE THEY COMPLY WITH THE REQUIREMENTS OF ENVIRONMENTAL PROTECTION LEGISLATION. IN SOME CASES, FUME SCRUBBERS, FILTERS OR ENGINEERING MODIFICATIONS TO THE PROCESS EQUIPMENT WILL BE NECESSARY TO REDUCE EMISSIONS TO ACCEPTABLE LEVELS.

INDIVIDUAL PROTECTION MEASURE SUCH AS PERSONAL PROTECTIVE EQUIPMENTS:

HAND PROTECTION..... CHEMICAL-RESISTANT, IMPERVIOUS GLOVES COMPLYING WITH AN APPROVED STANDARD SHOULD BE WORN AT ALL TIMES WHEN HANDLING CHEMICAL PRODUCTS IF A RISK ASSESSMENT INDICATES THIS IS NECESSARY.

PRODUCT: BROME-ADD

CODE: MUR0002

SECTION 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION.....	USE A PROPERLY FITTED, AIR-PURIFYING OR AIR-FED RESPIRATOR COMPLYING WITH AN APPROVED STANDARD IF A RISK ASSESSMENT INDICATES THIS IS NECESSARY. RESPIRATOR SELECTION MUST BE BASED ON KNOWN OR ANTICIPATED EXPOSURE LEVELS, THE HAZARDS OF THE PRODUCT AND THE SAFE WORKING LIMITS OF THE SELECTED RESPIRATOR.
EYE PROTECTION.....	SAFETY EYEWEAR COMPLYING WITH AN APPROVED STANDARD SHOULD BE USED WHEN A RISK ASSESSMENT INDICATES THIS IS NECESSARY TO AVOID EXPOSURE TO LIQUID SPLASHES, MISTS OR DUSTS. IF OPERATING CONDITIONS CAUSE HIGH DUST CONCENTRATIONS TO BE PRODUCED, USE DUST GOGGLES. RECOMMENDED: SAFETY GLASSES WITH SIDE-SHIELDS.
PROTECTIVE CLOTHING.....	PERSONAL PROTECTIVE EQUIPMENT FOR THE BODY SHOULD BE SELECTED BASED ON THE TASK BEING PERFORMED AND THE RISKS INVOLVED AND SHOULD BE APPROVED BY A SPECIALIST BEFORE HANDLING THIS PRODUCT. RECOMMENDED: LAB COAT.
PROTECTIVE FOOTWEAR.....	CHEMICAL RESISTANT SAFETY SHOES OR BOOTS.
OTHER.....	ENSURE THAT EYE STATIONS AND SAFETY SHOWERS ARE PROXIMAL TO THE WORK-STATION LOCATION. .
HYGIENIC PRACTICES.....	WASH HANDS, FOREARMS AND FACE THOROUGHLY AFTER HANDLING CHEMICAL PRODUCTS, BEFORE EATING, SMOKING AND USING THE LAVATORY AND AT THE END OF THE WORKING PERIOD. APPROPRIATE TECHNIQUES SHOULD BE USED TO REMOVE POTENTIALLY CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE REUSING.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE.....	LIQUID.
COLOR.....	N.AV.
ODOUR.....	ODOURLESS.
ODOUR THRESHOLD.....	N.AV.
PH.....	6.0 - 8.0.
MELTING POINT (C).....	N.AV.
BOILING POINT.....	N.AV.
FLASH POINT (C), METHOD.....	N.AP.
EVAPORATION RATE.....	N.AV.
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.AV.
RELATIVE DENSITY.....	1.35.
SOLUBILITY IN WATER (% W/W).....	EASILY SOLUBLE IN COLD WATER.
COEFFICIENT OF WATER/OIL DIST.....	N.AV.
AUTO IGNITION TEMPERATURE.....	N.AP.
DECOMPOSITION TEMPERATURE.....	~800 C.
VISCOSITY.....	N.AP.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:.....	UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS POLYMERIZATION WILL NOT OCCUR.
CHEMICAL STABILITY:.....	STABLE.
POSSIBILITY OF HAZARDOUS REACTIONS:.....	UNDER NORMAL CONDITIONS OF STORAGE AND USE, HAZARDOUS DECOMPOSITION PRODUCTS SHOULD NOT BE PRODUCED.
CONDITIONS TO AVOID.....	CONTACT WITH INCOMPATIBLES.
INCOMPATIBLE MATERIALS:.....	OXIDIZING MATERIALS, METALS, ACIDS.
HAZARDOUS PRODUCTS OF DECOMPOSITION.....	SEE HAZARDOUS COMBUSTION PRODUCTS.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
-------------	------	------

SODIUM BROMIDE	N.AV.	3500 MG/KG (ORAL, RAT); 7000 MG/KG (ORAL, RABBIT)
----------------	-------	---

INFORMATION ON LIKELY ROUTES OF ENTRY:

SKIN CONTACT.....	SLIGHTLY IRRITATING TO THE SKIN.
SKIN ABSORPTION.....	N.AV.
EYE CONTACT.....	SLIGHTLY IRRITATING TO THE EYES.

PRODUCT: BROME-ADD

CODE: MUR0002

SECTION 11: TOXICOLOGICAL INFORMATION

INHALATION.....	IRRITATING TO RESPIRATORY SYSTEM.
INGESTION.....	HARMFUL IF SWALLOWED.
EFFECTS OF ACUTE EXPOSURE.....	SEE ABOVE.
EFFECTS OF CHRONIC EXPOSURE.....	REPEATED OR PROLONGED INHALATION OF DUST MAY LEAD TO CHRONIC RESPIRATORY IRRITATION.
SIGNS AND SYMPTOMS OF OVEREXPOSURE	INGESTION: NO SPECIFIC DATA. SKIN: ADVERSE SYMPTOMS MAY INCLUDE THE FOLLOWING: IRRITATION, REDNESS. EYES: ADVERSE SYMPTOMS MAY INCLUDE THE FOLLOWING: IRRITATION, WATERING, REDNESS. INHALATION: ADVERSE SYMPTOMS MAY INCLUDE THE FOLLOWING: RESPIRATORY TRACT IRRITATION, COUGHING.
CARCINOGENICITY OF MATERIAL.....	IARC: NOT LISTED.
TERATOGENICITY.....	N.AV.
MUTAGENICITY.....	N.AV.
REPRODUCTIVE EFFECTS.....	N.AV.
SENSITIZING CAPABILITY OF MATERIAL.....	N.AV.
SYNERGISTIC MATERIALS.....	N.AV.

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.....	N.AP.
PROPER SHIPPING NAME.....	N.AP.
TDG CLASSIFICATION.....	NOT REGULATED.
PACKING GROUP.....	N.AP.
ENVIRONMENTAL HAZARDS ACCORDING TO THE INTERNATIONAL MARITIME DANGEROUS GOODS CODE AND THE UNITED NATIONS MODEL REGULATIONS: 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..... APR 18/2017