



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

PRODUCT: M.S.R.

CODE: MUR0045

Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER..... MURSATT CHEMICALS LIMITED
11 REGALCREST COURT
WOODBIDGE, ONTARIO
CANADA
L4L 8P3
PREPARED BY..... REGULATORY AFFAIRS
PREPARATION DATE..... Apr23/14
PRODUCT NAME..... M.S.R.
PRODUCT CODE..... MUR0045
CHEMICAL FORMULA..... MIXTURE.
MOLECULAR WEIGHT..... MIXTURE.
CHEMICAL FAMILY..... N.A.V.
MATERIAL USE..... N.A.V.
EMERGENCY PHONE NO..... CANUTEC (613)-996-6666.

Section 02: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:
SKIN CONTACT..... LOW ACUTE DERMAL TOXICITY. NO SIGNIFICANT IRRITATION EXPECTED FROM A SINGLE SHORT-TERM EXPOSURE.
SKIN ABSORPTION..... N.A.V.
EYE CONTACT..... CORROSIVE. CAUSES EYE BURNS. CORROSIVE TO EYE TISSUE AND MAY CAUSE SEVERE DAMAGE AND BLINDNESS.
INHALATION..... MAY CAUSE UPPER RESPIRATORY TRACT IRRITATION, SORE THROAT AND COUGHING.
INGESTION..... LOW TOXICITY. MAY CAUSE ABDOMINAL DISCOMFORT, NAUSEA, VOMITING AND DIARRHEA.
EFFECTS OF ACUTE EXPOSURE..... SEE ABOVE.
EFFECTS OF CHRONIC EXPOSURE..... N.A.V.

Section 03: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	Exposure Limit	C.A.S.#	LD/50, Route,Species	LC/50 Route,Species
1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID	10-30	SEE SECTION 11	2809-21-4	SEE SECTION 11	SEE SECTION 11
PHOSPHORUS ACID	0.3-2	SEE SECTION 11	10294-56-1	SEE SECTION 11	SEE SECTION 11

Section 04: FIRST AID MEASURES

EYE CONTACT..... FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. SEEK IMMEDIATE MEDICAL ATTENTION. IF IT IS NECESSARY TO TRANSPORT THE PATIENT TO A PHYSICIAN AND THE EYE NEEDS TO BE BANDAGED, USE A DRY STERILE CLOTH PAD AND COVER BOTH EYES.
SKIN CONTACT..... WASH CONTAMINATED SKIN WITH MILD SOAP AND WATER FOR 15 MINUTES. OBTAIN MEDICAL ATTENTION IMMEDIATELY. REMOVE CONTAMINATED CLOTHING AND LAUNDRY BEFORE REUSE. DESTROY OR THOROUGHLY CLEAN CONTAMINATED SHOES.
INHALATION..... IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION.
INGESTION..... DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. SEEK IMMEDIATE MEDICAL ATTENTION. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS.
NOTES TO PHYSICIAN..... TREATMENT BASED ON SOUND JUDGMENT OF PHYSICIAN AND INDIVIDUAL REACTIONS OF PATIENT.

Section 05: FIRE FIGHTING MEASURES

T.D.G. FLAM. CLASS..... NOT REGULATED.
FLAMMABILITY..... NON FLAMMABLE.
EXTINGUISHING MEDIA..... USE DRY CHEMICALS, CO2, ALCOHOL FOAM OR WATER SPRAY.
SPECIAL PROCEDURES..... CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOUR PRESSURE BUILD-UP WHICH COULD RESULT IN CONTAINER RUPTURE. DO NOT ALLOW RUNOFF TO ENTER WATERWAYS. FIRE FIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING, INCLUDING SELF-CONTAINED BREATHING EQUIPMENT.

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Section 05: FIRE FIGHTING MEASURES

FLASH POINT (C), METHOD..... N.A.P.
 AUTO IGNITION TEMPERATURE..... N.A.V.
 UPPER FLAMMABLE LIMIT (% BY VOL.)... N.A.P.
 LOWER FLAMMABLE LIMIT (% BY VOL.)... N.A.P.
 EXPLOSION DATA..... N.A.V.
 EXPLOSIVE POWER..... N.A.V.
 RATE OF BURNING..... N.A.V.
 SENSITIVITY TO STATIC DISCHARGE..... N.A.V.
 SENSITIVITY TO IMPACT..... N.A.V.
 HAZARDOUS COMBUSTION PRODUCTS.. OXIDES OF PHOSPHORUS. OXIDES OF CARBON. PHOSPHINES.

Section 06: ACCIDENTAL RELEASE MEASURES

LEAK/SPILL..... PERSONAL PRECAUTIONARY MEASURES: VENTILATE SPILL AREA IF POSSIBLE. WEAR APPROPRIATE PROTECTIVE EQUIPMENT. ENVIRONMENTAL PRECAUTIONARY MEASURES: PREVENT ENTRY INTO SEWERS OR STREAMS, DIKE IF NEEDED. CONSULT LOCAL AUTHORITIES. PROCEDURE FOR CLEAN UP: ISOLATE HAZARD AREA AND RESTRICT ACCESS. ABSORB WITH AN INERT DRY MATERIAL AND PLACE IN AN APPROPRIATE WASTE DISPOSAL CONTAINER. AVOID DIRECT CONTACT WITH MATERIAL. DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER. DECONTAMINATE TOOLS AND EQUIPMENT FOLLOWING CLEANUP. NEUTRALIZE WITH LIME SLURRY, LIMESTONE, OR SODA ASH.

Section 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND EQUIPMENT FOR INDUSTRIAL USE ONLY. HANDLE AND OPEN CONTAINERS WITH CARE. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. DO NOT INGEST. AVOID INHALATION OF CHEMICAL. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS PRODUCT RESIDUES. KEEP THE CONTAINERS CLOSED WHEN NOT IN USE. PROTECT AGAINST PHYSICAL DAMAGE. USE APPROPRIATE PERSONNEL PROTECTIVE EQUIPMENT.
 STORAGE NEEDS..... STORE IN A COOL, DRY, WELL VENTILATED AREA, AWAY FROM HEAT AND IGNITION SOURCES. PLACE AWAY FROM INCOMPATIBLE MATERIALS. STORE IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICES.

Section 08: EXPOSURE CONTROLS AND PERSONAL PROTECTION

GLOVES/ TYPE..... APPROPRIATE CHEMICAL RESISTANT GLOVES SHOULD BE WORN.
 RESPIRATORY/TYPE..... IF EXPOSURE EXCEEDS OCCUPATIONAL EXPOSURE LIMITS, USE AN APPROPRIATE NIOSH APPROVED RESPIRATOR. IN CASE OF SPILL OR LEAK RESULTING IN UNKNOWN CONCENTRATION, USE A NIOSH APPROVED SUPPLIED AIR RESPIRATOR.
 EYE/TYPE..... CHEMICAL GOGGLES; ALSO WEAR A FACE SHIELD IF SPLASHING HAZARD EXISTS.
 FOOTWEAR/TYPE..... SEE BELOW.
 CLOTHING/TYPE..... SKIN CONTACT SHOULD BE PREVENTED THROUGH THE USE OF SUITABLE PROTECTIVE CLOTHING, GLOVES AND FOOTWEAR, SELECTED FOR CONDITIONS OF USE AND EXPOSURE POTENTIAL. CONSIDERATION MUST BE GIVEN BOTH TO DURABILITY AS WELL AS PERMEATION RESISTANCE.
 OTHER/TYPE..... ENSURE THAT EYEWASH STATIONS AND SAFETY SHOWERS ARE PROXIMAL TO THE WORK-STATION LOCATION. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.
 ENGINEERING CONTROLS..... USE PROCESS ENCLOSURE, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO KEEP AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS.

Section 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE..... COLOURLESS LIQUID.
 ODOUR..... CHARACTERISITC.
 ODOUR THRESHOLD..... N.A.V.
 VAPOUR PRESSURE (MMHG)..... N.A.V.
 VAPOUR DENSITY (AIR=1)..... N.A.V.
 EVAPORATION RATE..... N.A.V.
 BOILING POINT..... >100 C (212 F).
 PH..... 2.0.
 SPECIFIC GRAVITY (WATER=1)..... 1.12 - 1.15.
 SOLUBILITY IN WATER (% W/W)..... MISCIBLE IN WATER.
 COEFFICIENT OF WATER/OIL DIST..... N.A.V.

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Section 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:..... STABLE UNDER NORMAL CONDITIONS OF HANDLING, USE AND TRANSPORTATION.
 CONDITIONS TO AVOID..... HEAT. TEMPERATURES ABOVE 200°C.
 MATERIALS TO AVOID..... STRONG OXIDIZING AGENTS. STRONG BASES.
 HAZARDOUS PRODUCTS OF DECOMPOSITION..... OXIDES OF PHOSPHORUS. OXIDES OF CARBON. PHOSPHORUS ACIDS
 PHOSPHINES.
 HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR.

Section 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL..... N.A.V.
 LC 50 OF MATERIAL, SPECIES & ROUTE.. N.A.V.
 LD 50 OF MATERIAL, SPECIES & ROUTE.. 1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID: ORAL LD50 (RAT) 2400 MG/KG;
 DERMAL LD50 (RABBIT) 7940 MG/KG.
 CARCINOGENICITY OF MATERIAL..... ACGIH: NOT LISTED. IARC: NOT LISTED.
 REPRODUCTIVE EFFECTS..... N.A.V.
 IRRITANCY OF MATERIAL..... SEE SECTION 02. INGESTION: LOW TOXICITY. MAY CAUSE ABDOMINAL DISCOMFORT, NAUSEA, VOMITING AND DIARRHEA. SKIN CONTACT: LOW ACUTE DERMAL TOXICITY. NO SIGNIFICANT IRRITATION EXPECTED FROM A SINGLE SHORT-TERM EXPOSURE. INHALATION: MAY CAUSE UPPER RESPIRATORY TRACT IRRITATION, SORE THROAT AND COUGHING EYE CONTACT: CORROSIVE. CAUSES EYE BURNS. CORROSIVE TO EYE TISSUE AND MAY CAUSE SEVERE DAMAGE AND BLINDNESS.
 SENSITIZING CAPABILITY OF MATERIAL. N.A.V.
 SYNERGISTIC MATERIALS..... N.A.V.
 MUTAGENICITY..... N.A.V.
 TERATOGENICITY..... N.A.V.
 ADDITIONAL INFORMATION..... THERE IS A POSSIBILITY THAT THIS THERMAL DECOMPOSITION MAY PRODUCE BICYCLIC PHOSPHATES AND/OR PHOSPHITES IN COMBINATION WITH CERTAIN OTHER PHOSPHORUS COMPOUNDS. BICYCLIC PHOSPHATES AND PHOSPHITES HAVE ACUTE NEUROTOXIC PROPERTIES AND MAY CAUSE CONVULSIVE SEIZURES IN LABORATORY TEST ANIMALS. SKIN CONTACT MAY AGGRAVATE EXISTING SKIN DISEASE.

Section 12: ECOLOGICAL CONSIDERATIONS

ECOLOGICAL INFORMATION..... INGREDIENTS ECOTOXICITY - FISH SPECIES DATA: .
 1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID: LC50 96 H (LEPOMIS MACROCHIRUS) 868 MG/L STATIC; LC50 96 H (ONCORHYNCHUS MYKISS) 360 MG/L STATIC; LC50 96 H (LEPOMIS MACROCHIRUS) 868 MG/L STATIC.

Section 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL..... DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

Section 14: TRANSPORT INFORMATION

TDG CLASSIFICATION..... 8.
 PROPER SHIPPING NAME..... CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
 (1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID).
 UN NUMBER..... 3265.
 PACKING GROUP..... III.
 SPECIAL SHIPPING INSTRUCTIONS..... N.A.V.

Section 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION..... E.
 CPR COMPLIANCE..... THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

Section 16: OTHER INFORMATION

N.AP.=NOT APPLICABLE
 N.A.V.=NOT AVAILABLE
 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

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Section 16: OTHER INFORMATION

OTHER INFORMATION..... 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.