



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

PRODUCT: SHIELD

CODE: MUR0044

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..... Jun01/08
PRODUCT NAME..... SHIELD
PRODUCT CODE..... MUR0044
CHEMICAL FORMULA..... MIXTURE.
MOLECULAR WEIGHT..... MIXTURE.
CHEMICAL FAMILY..... MIXTURE.
MATERIAL USE..... SPA WATER TREATMENT.
EMERGENCY PHONE NO..... CANUTEC (613)-996-6666.

Section 02: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	Exposure Limit	C.A.S.#	LD/50, Route, Species	LC/50 Route, Species
SODIUM HYDROXIDE	1-5	N.AV.	1310-73-2	500 MG/KG (ORAL, RABBIT)	N.AV.
1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID	3-7	N.AV.	2809-21-4	2400 MG/KG (ORAL, RAT); 7940 MG/KG (DERMAL, RABBIT)	N.AV.

Section 03: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:
SKIN CONTACT..... CAUSES SEVERE BURNS.
SKIN ABSORPTION..... N.AV.
EYE CONTACT..... CORROSIVE. CAUSES EYE BURNS. CORROSIVE TO EYE TISSUE AND MAY CAUSE SEVERE DAMAGE AND BLINDNESS.
INHALATION..... CORROSIVE TO RESPIRATORY PASSAGES.
INGESTION..... CAUSES BURNS TO THE MOUTH, THROAT AND STOMACH. MAY CAUSE PAIN, NAUSEA, VOMITING AND DIARRHEA.
EFFECTS OF ACUTE EXPOSURE..... SEE ABOVE.
EFFECTS OF CHRONIC EXPOSURE..... SEE ABOVE.
INHALATION, CHRONIC..... SEE ABOVE.

Section 04: FIRST AID MEASURES

EYE CONTACT..... IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. UTMOST SPEED IS ESSENTIAL. HAVE AN OPHTHAMOLOGIST MAKE AN EVALUATION OF EYE INJURY. .
SKIN CONTACT..... FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. IF WEARING GOGGLES, FLUSH HEAD AND FACE THOROUGHLY BEFORE REMOVING GOGGLES. OBTAIN MEDICAL ATTENTION IMMEDIATELY. .
INGESTION..... IF PATIENT IS FULLY CONSCIOUS, GIVE TWO GLASSES OF WATER. SEEK IMMEDIATE MEDICAL ATTENTION. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. ADMINISTER ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED. IF THE HEART HAS STOPPED, TRAINED PERSONNEL SHOULD BEGIN CARDIOPULMONARY RESUSCITATION (CPR) IMMEDIATELY. .
INHALATION..... REMOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GET IMMEDIATE MEDICAL ATTENTION.
NOTES TO PHYSICIAN..... TREATMENT BASED ON SOUND JUDGMENT OF PHYSICIAN AND INDIVIDUAL REACTIONS OF PATIENT.

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Section 05: FIRE FIGHTING MEASURES

T.D.G. FLAM. CLASS..... NON FLAMMABLE.
 FLAMMABILITY..... NON FLAMMABLE.
 IF YES, UNDER WHICH CONDITIONS?
 EXTINGUISHING MEDIA..... USE WATER WITH CAUTION. DO NOT USE CO2 BECAUSE IT REACTS EXOTHERMICALLY WITH SODIUM HYDROXIDE.
 SPECIAL PROCEDURES..... FIRE FIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING, INCLUDING SELF-CONTAINED BREATHING EQUIPMENT. 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. .

FLASH POINT (C), METHOD..... NON-FLAMMABLE.
 AUTO IGNITION TEMPERATURE..... N.AV.
 UPPER FLAMMABLE LIMIT (% BY VOL.).... N.AP.
 LOWER FLAMMABLE LIMIT (% BY VOL.)... N.AP.
 EXPLOSION DATA..... N.AP.
 EXPLOSIVE POWER..... N.AP.
 RATE OF BURNING..... N.AV.
 SENSITIVITY TO STATIC DISCHARGE..... N.AV.
 SENSITIVITY TO IMPACT..... N.AV.
 HAZARDOUS COMBUSTION PRODUCTS.. OXIDES OF SODIUM. OXIDES OF CARBON. OXIDES OF PHOSPHORUS AND PHOSPHINE.

Section 06: ACCIDENTAL RELEASE MEASURES

LEAK/SPILL..... ISOLATE HAZARD AREA AND RESTRICT ACCESS. SMALL SPILLS: SOAK UP WITH ABSORBENT MATERIAL AND SCOOP INTO CONTAINERS. LARGE SPILLS : PREVENT CONTAMINATION OF WATERWAYS. DIKE AND PUMP INTO SUITABLE CONTAINERS. CLEAN UP RESIDUAL WITH ABSORBENT MATERIAL, PLACE IN APPROPRIATE CONTAINER AND FLUSH WITH WATER. . DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER.

Section 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND FOR INDUSTRIAL USE ONLY. HANDLE AND OPEN CONTAINERS WITH CARE. AVOID EQUIPMENT 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. . USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES.
 STORAGE NEEDS..... STORE IN A DRY, WELL VENTILATED AREA, SEPARATE FROM ACIDS, PEROXIDES, METALS, EASILY IGNITABLE MATERIALS AND OTHER INCOMPATIBLES.

Section 08: EXPOSURE CONTROLS/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 NIOSH APPROVED SUPPLIED AIR RESPIRATOR.
 EYE/TYPE..... CHEMICAL GOGGLES; ALSO WEAR A FACE SHIELD IF SPLASHING HAZARD EXISTS.
 FOOTWEAR/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. .
 CLOTHING/TYPE
 OTHER/TYPE..... SAFETY SHOWERS AND EYEWASH IN CLOSE PROXIMITY TO WORKING AREA.
 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..... LIQUID.
 COLOR..... LIGHT AMBER.
 ODOUR..... MILD.
 ODOUR THRESHOLD..... N.AV.
 VAPOUR PRESSURE (MMHG)..... N.AV.
 VAPOUR DENSITY (AIR=1)
 BY VOLUME..... N.AV.
 BY WEIGHT..... N.AV.
 EVAPORATION RATE..... N.AV.

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Section 09: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT..... >100 C.
 PH..... 5.7.
 SPECIFIC GRAVITY (WATER=1)..... 1.3.
 SOLUBILITY IN WATER (% W/W)..... SOLUBLE.
 COEFFICIENT OF WATER/OIL DIST..... N.AV.

Section 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:
 YES..... STABLE UNDER NORMAL CONDITIONS OF HANDLING, USE AND TRANSPORTATION.
 NO, WHICH CONDITIONS?
 CONDITIONS TO AVOID..... HEAT. TEMPERATURES ABOVE 200°C.
 COMPATABILITY WITH OTHER SUBSTANCES:
 YES
 NO, WHICH ONES?..... COMMON METALS AND THEIR ALLOYS. ACIDS. ACID ANHYDRIDES. OXIDIZABLE MATERIAL. CONTACT WITH WATER CAUSES AN EXOTHERMIC REACTION. .
 REACTIVITY CONDITIONS:..... CONTACT WITH INCOMPATIBLES.
 HAZARDOUS PRODUCTS OF OXIDES OF CARBON. OXIDES OF PHOSPHORUS. PHOSPHOROUS ACIDS.
 DECOMPOSITION PHOSPHINES.
 HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR.

Section 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL
 LC 50 OF MATERIAL, SPECIES & ROUTE.. SEE SECTION 02.
 LD 50 OF MATERIAL, SPECIES & ROUTE.. SEE SECTION 02.
 CARCINOGENICITY OF MATERIAL..... COMPONENTS ARE NOT LISTED CARCINOGENS.
 REPRODUCTIVE EFFECTS..... N.AV.
 IRRITANCY OF MATERIAL..... SEE SECTION 03.
 SENSITIZING CAPABILITY OF MATERIAL. N.AV.
 SYNERGISTIC MATERIALS..... N.AV.
 MUTAGENICITY..... N.AV.
 TERATOGENICITY..... N.AV.

Section 12: ECOLOGICAL CONSIDERATIONS

ECOLOGICAL INFORMATION..... N.AV.

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

TDG CLASSIFICATION..... 8.
 PROPER SHIPPING NAME..... CORROSIVE LIQUIDS N.O.S. (SODIUM HYDROXIDE).
 UN NUMBER..... 1760.
 PACKING GROUP..... II.
 SPECIAL SHIPPING INSTRUCTIONS..... NO SPECIAL SHIPPING REQUIREMENTS.

Section 15: REGULATORY INFORMATION

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.
 WHMIS CLASSIFICATION..... E.

Section 16: OTHER INFORMATION

N.AP.=NOT APPLICABLE
 N.AV.=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 WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE

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Section 16: OTHER INFORMATION

OTHER INFORMATION..... 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.