



CANADA COLORS & CHEMICALS LTD  
80 SCARSDALE ROAD  
DON MILLS, ONTARIO, CANADA M3B 2R7  
(416)-449-7750

**PRODUCT : CAUSTIC SODA 50% ACS****CODE: 297630****SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MANUFACTURER.....PURITAN PRODUCTS INC  
LE HIGH VALLEY INDUSTRIAL PARK  
2290 AVENUE A  
BETHLEHEM, PA ; 18017  
PREPARED BY.....ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT  
PREPARATION DATE.....MAY 15/2002  
PRODUCT NAME.....CAUSTIC SODA 50% ACS  
PRODUCT CODE.....297630  
CHEMICAL FORMULA.....NAOH IN WATER  
MOLECULAR WEIGHT.....40.0  
CHEMICAL FAMILY.....N.AV.  
EMERGENCY PHONE NO.....(416)-444-2112  
MATERIAL USE.....REFER TO TECHNICAL LITERATURE

**SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	EXPOSURE LEVELS	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
SODIUM HYDROXIDE % :30-60 CAS #:1310-73-2	2 MG/M3 CEV/VP	140-340 MG/KG (ORAL-RAT)	N.AV.

**SECTION 03: HAZARDS IDENTIFICATION****ROUTE OF ENTRY:**

SKIN CONTACT.....CORROSIVE. CONTACT WITH SKIN CAN CAUSE IRRITATION OR SEVERE BURNS AND SCARRING WITH GREATER EXPOSURES.

SKIN ABSORPTION.....N.AV.

EYE CONTACT.....CORROSIVE. CAUSES IRRITATION OF EYES, AND WITH GREATER EXPOSURES IT CAN CAUSE BURNS THAT MAY RESULT IN PERMANENT IMPAIRMENT OF VISION, EVEN BLINDNESS.

INHALATION.....SEVERE IRRITANT. EFFECTS FROM INHALATION OF MIST VARY FROM MILD IRRITATION TO SERIOUS DAMAGE OF THE UPPER RESPIRATORY TRACT, DEPENDING ON SEVERITY OF EXPOSURE. SYMPTOMS MAY INCLUDE SNEEZING, SORE THROAT OR RUNNY NOSE. SEVERE PNEUMONITIS MAY OCCUR.

INGESTION.....CORROSIVE. SWALLOWING MAY CAUSE SEVERE BURNS OF MOUTH, THROAT AND STOMACH. SEVERE SCARRING OF TISSUE AND DEATH MAY RESULT. SYMPTOMS MAY INCLUDE BLEEDING, VOMTING, DIARRHEA, FALL IN BLOOD PRESSURE. DAMAGE MAY APPEAR DAYS AFTER EXPOSURE.

EFFECTS OF ACUTE EXPOSURE.....SEE ABOVE

EFFECTS OF CHRONIC EXPOSURE.....PROLONGED CONTACT WITH DILUTE SOLUTIONS OR DUST HAS A DESTRUCTIVE EFFECT UPON TISSUE.

MEDICAL CONDITIONS AGGRAVATED...PERSONS WITH PRE-EXISTING SKIN DISORDERS OR EYE PROBLEMS OR  
BY OVEREXPOSURE IMPAIRED RESPIRATORY FUNCTION MAY BE MORE SUSCEPTIBLE TO

THE EFFECTS OF THE SUBSTANCE.

INHALATION, CHRONIC.....SEE ABOVE

## SECTION 04: FIRST AID MEASURES

NOTES TO PHYSICIAN:.....PERFORM ENDOSCOPY IN ALL CASES OF SUSPECTED SODIUM  
HYDROXIDE INGESTION. IN CASES OF SEVERE ESOPHAGEAL  
CORROSION, THE USE OF THERAPEUTIC DOSES OF STERIODS SHOULD  
BE CONSIDERED. GENERAL SUPPORTIVE MEASURES WITH CONTINUAL  
MONITORING OF GAS EXCHANGE, ACID-BASE BALANCE,  
ELECTROLYTES, AND FLUID INTAKE ARE ALSO REQUIRED.

INSTRUCTIONS:.....INHALATION:... REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE  
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE  
OXYGEN. CALL A PHYSICIAN. INGESTION:... DO NOT INDUCE  
VOMITING. GIVE LARGE QUANTITIES OF WATER OR MILK. NEVER  
GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET  
MEDICAL ATTENTION IMMEDIATELY. SKIN CONTACT:... IMMEDIATELY  
FLUSH SKIN WITH WATER FOR AT LEAST 15 MINUTES. REMOVE  
CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN  
IMMEDIATELY. WASH CLOTHING BEFORE REUSE. EYE CONTACT:...  
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15  
MINUTES, LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. GET  
MEDICAL ATTENTION AT ONCE.

## SECTION 05: FIRE FIGHTING MEASURES

T.D.G. FLAM. CLASS

FLAMMABILITY

IF YES, UNDER WHICH.....NOT FLAMMABLE  
CONDITIONS?

EXTINGUISHING MEDIA.....SUITABLE FOR SURROUNDING FIRE. ADDING WATER TO CAUSTIC  
SOLUTION GENERATES LARGE AMOUNTS OF HEAT.

SPECIAL PROCEDURES.....NOT CONSIDERED TO BE A FIRE HAZARD. HOT OR MOLTEN MATERIAL  
CAN REACT VIOLENTLY WITH WATER. CAN REACT WITH CERTAIN  
METALS, SUCH AS ALUMINUM, TO GENERATE FLAMMABLE HYDROGEN  
GAS. WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF  
CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED  
IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

FLASH POINT (C), METHOD.....N.AV.

AUTO IGNITION TEMPERATURE.....N.AV.

UPPER FLAMMABLE LIMIT (% BY.....N.AV.  
VOL.)

LOWER FLAMMABLE LIMIT (% BY.....N.AV.  
VOL.)

EXPLOSION DATA

EXPLOSIVE POWER.....MAY CAUSE FIRE AND EXPLOSIONS WHEN IN CONTACT WITH  
INCOMPATIBLE MATERIALS.

RATE OF BURNING

PRODUCT : CAUSTIC SODA 50% ACS

CODE: 297630



PRODUCT : CAUSTIC SODA 50% ACS

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## SECTION 05: FIRE FIGHTING MEASURES

SENSITIVITY TO STATIC.....N.AV.  
DISCHARGE

SENSITIVITY TO IMPACT.....N.AV.  
HAZARDOUS COMBUSTION PRODUCTS....N.AV.

## SECTION 06: ACCIDENTAL RELEASE MEASURES

SPILL/LEAK.....VENTILATE AREA OF LEAK OR SPILL. KEEP UNNECESSARY AND UNPROTECTED PEOPLE AWAY FROM AREA OF SPILL. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AS SPECIFIED. CONTAIN AND RECOVER LIQUID WHEN POSSIBLE. DO NOT FLUSH CAUSTIC RESIDUES TO THE SEWER. RESIDUES FROM SPILLS CAN BE DILUTED WITH WATER, NEUTRALIZED WITH DILUTE ACID SUCH AS ACETIC, HYDROCHLORIC OR SULFURIC. ABSORB NEUTRALIZED CAUSTIC RESIDUE ON CLAY, VERMICULITE OR OTHER INERT SUBSTANCE AND PACKAGE IN A SUITABLE CONTAINER FOR DISPOSAL.

## SECTION 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND.....ALWAYS ADD CAUSTIC SODA TO WATER WITH CONSTANT AGITATION.  
EQUIPMENT CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. OBSERVE ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.  
STORAGE NEEDS.....KEEP THE CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. PROTECT CONTAINERS FROM PHYSICAL DAMAGE. STORE IN A COOL, DRY AND WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE MATERIALS. STORE AWAY FROM SOURCES OF HEAT AND MOISTURE. STORE ABOVE 16 (C) TO PREVENT FREEZING. DO NOT STORE WITH ALUMINUM OR MAGNESIUM. DO NOT MIX WITH ACIDS OR ORGANIC MATERIALS.

## SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

GLOVES/ TYPE.....IMPERVIOUS GLOVES  
RESPIRATORY/TYPE.....IF THE EXPOSURE LIMIT IS EXCEEDED, A HALF-FACE DUST/MIST RESPIRATOR MAY BE WORN FOR UP TO TEN TIMES THE EXPOSURE LIMIT OF THE MAXIMUM USE CONCENTRATION SPECIFIED BY THE APPROPRIATE REGULATORY AGENCY OR RESPIRATOR SUPPLIER, WHICHEVER IS LOWEST. A FULL-FACE PIECE DUST/MIST RESPIRATOR MAY BE WORN UP TO 50 TIMES THE EXPOSURE LIMIT, OR THE MAXIMUM USE CONCENTRATION SPECIFIED. FOR EMERGENCIES OR INSTANCES WHERE THE EXPOSURE LEVELS ARE NOT KNOWN, USE A FULL-FACE PIECE POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR. WARNING: AIR-PURIFYING RESPIRATORS DO NOT PROTECT WORKERS IN OXYGEN-DEFICIENT ATMOSPHERES.  
EYE/TYPE.....CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD TO PROTECT EYES AND FACE, IF PRODUCT IS HANDLED SUCH THAT IT COULD BE SPLASHED INTO EYES.  
FOOTWEAR/TYPE.....BOOTS  
CLOTHING/TYPE.....IMPERVIOUS CLOTHING. LAB COAT. APRON SHOULD BE WORN TO PREVENT CONTACT WITH THE LIQUID. COVERALLS

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## SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

OTHER/TYPE.....EYE BATH AND SAFETY SHOWER.

ENGINEERING CONTROLS.....A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURES AS LOW AS POSSIBLE. LOCAL EXHAUST VENTILATION IS GENERALLY PREFERRED BECAUSE IT CAN CONTROL THE EMISSIONS OF THE CONTAMINANT AT ITS SOURCE, PREVENTING DISPERSION OF INTO THE GENERAL WORK AREA. PLEASE REFER TO THE ACGIH DOCUMENT, INDUSTRIAL VENTILATION, A MANUAL OF RECOMMENDED PRACTICES, MOST RECENT EDITION, FOR DETAILS.

## SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE.....CLEAR. COLOURLESS. LIQUID

ODOUR.....ODOURLESS

ODOUR THRESHOLD.....N.AV.

VAPOUR PRESSURE (MMHG).....13 @ 60(C) 50% SOLUTION

VAPOUR DENSITY (AIR=1).....1.53 50% SOLUTION

BY VOLUME

BY WEIGHT

EVAPORATION RATE.....N.AV.

BOILING POINT.....140(C) 50% SOLUTION

PH.....14

SPECIFIC GRAVITY (WATER=1).....1.53

SOLUBILITY IN WATER (% W/W).....COMPLETELY MISCIBLE

COEFFICIENT OF WATER/OIL DIST....N.AV.

## SECTION 10: STABILITY AND REACTIVITY

## CHEMICAL STABILITY:

YES.....STABLE UNDER NORMAL CONDITIONS OF HANDLING AND STORAGE.

NO, WHICH CONDITIONS?

## COMPATABILITY WITH OTHER

## SUBSTANCES:

YES

NO, WHICH ONES?.....HEAT. MOISTURE. INCOMPATIBLE MATERIALS

REACTIVITY CONDITIONS?.....CONTACT WITH ACIDS AND ORGANIC HALOGEN COMPOUNDS, ESPECIALLY TRICHLOROETHYLENE , MAY CAUSE VIOLENT REACTIONS. CONTACT WITH NITROMETHANE AND OTHER SIMILAR NITRO COMPOUNDS CAUSES FORMATION OF SHOCK-SENSITIVE SALTS. CONTACT WITH METALS SUCH AS ALUMINUM, MAGNESIUM, TIN AND ZINC CAUSE FORMATION OF FLAMMABLE HYDROGEN GAS. REACTS READILY WITH VARIOUS SUGARS TO PRODUCE CARBON MONOXIDE. PRECAUTIONS SHOULD BE TAKEN INCLUDING MONITORING THE TANK ATMOSPHERE FOR CARBON MONOXIDE TO ENSURE SAFETY OF PERSONNEL BEFORE VESSEL ENTRY.

HAZARDOUS PRODUCTS OF.....SODIUM OXIDE. DECOMPOSITION BY REACTION WITH CERTAIN METALS

DECOMPOSITION RELEASES FLAMMABLE AND EXPLOSIVE HYDROGEN GAS.

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## SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL.....OSHA - PEL:. 2 MG/M3. CEILING. ACGIH (TLV):. 2 MG/M3.  
CEILING

LC 50 OF MATERIAL, SPECIES &.....SEE SECTION 02  
ROUTE

LD 50 OF MATERIAL, SPECIES &.....SEE SECTION 02  
ROUTE

CARCINOGENICITY OF MATERIAL.....NOT LISTED AS A CARCINOGEN.

REPRODUCTIVE EFFECTS.....N.AV.

IRRITANCY OF MATERIAL.....SKIN, RABBIT: 500MG/24II SEVERE; EYE, RABBIT: 50UG/24H  
SEVERE.

SENSITIZING CAPABILITY OF.....N.AV.

MATERIAL

SYNERGISTIC MATERIALS.....N.AV.

## SECTION 12: ECOLOGICAL CONSIDERATIONS

ENVIRONMENTAL STATEMENT.....NO DATA AVAILABLE

## SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL.....DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL,  
PROVINCIAL, AND LOCAL ENVIRONMENTAL REGULATIONS.

## SECTION 14: TRANSPORT INFORMATION

TDG CLASSIFICATION.....8  
UN NUMBER.....1824  
PACKING GROUP.....II  
SPECIAL SHIPPING INSTRUCTIONS....N.AP.

## 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.AV.=NOT AVAILABLE



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**PRODUCT : CARUS UPZ 985****CODE: 294623****SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MANUFACTURER/SUPPLIER.....CARUS CORPORATION  
1500 EIGHTH STREET  
LASALLE, IL  
USA ; 61301  
PREPARED BY.....ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT  
PREPARATION DATE.....MAY 22/2003  
PRODUCT NAME.....CARUS UPZ 985  
PRODUCT CODE.....294623  
CHEMICAL FORMULA.....N.AV.  
MOLECULAR WEIGHT.....MIXTURE  
CHEMICAL FAMILY.....N.AV.  
MATERIAL USE.....REFER TO TECHNICAL LITERATURE  
EMERGENCY PHONE NO.....(416)-444-2112

**SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS/COMPOSITION	EXPOSURE LEVELS	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
ZINC PHOSPHATE % :10-30 CAS #:7779-90-0	---	SEE SECTION 11	SEE SECTION 11
PHOSPHORIC ACID % :10-30 CAS #:7664-38-2	1 MG/M3 (OSHA-PEL, SEE SECTION 11 ACGIH-TWA 1993-94)		SEE SECTION 11

**SECTION 03: HAZARDS IDENTIFICATION****ROUTE OF ENTRY:**

SKIN CONTACT.....MAY CAUSE REDNESS, PAIN, AND SEVERE SKIN IRRITATION.  
SKIN ABSORPTION.....N.AV.  
EYE CONTACT.....CORROSIVE. MAY CAUSE REDNESS, PAIN, BURNS AND PERMANENT EYE  
DAMAGE.  
INHALATION.....MIST OR VAPOR INHALATION MAY CAUSE IRRITATION TO NOSE,  
THROAT AND UPPER RESPIRATORY TRACT. SEVERE EXPOSURES CAN  
LEAD TO CHEMICAL PNEUMONITIS.  
INGESTION.....MAY CAUSE IRRITATION OR BURNING TO MOUTH AND THROAT.  
EFFECTS OF ACUTE EXPOSURE.....SEE ABOVE  
EFFECTS OF CHRONIC EXPOSURE.....NO SPECIFIC INFORMATION.  
MEDICAL CONDITIONS AGGRAVATED....MAY AGGRAVATE PRE-EXISTING SKIN, EYE OR RESPIRATORY  
BY OVEREXPOSURE DISORDERS.  
INHALATION, CHRONIC.....N.AV.



PRODUCT : CARUS UPZ 985

CODE: 294623

## SECTION 04: FIRST AID MEASURES

INSTRUCTIONS:.....INGESTION:.. BURNING OF MOUTH AREA MAY BE REDUCED OR ELIMINATED THROUGH CONTINUED RINSING WITH WATER. DO NOT INDUCE VOMITING. DRINK LARGE QUANTITIES OF WATER. CONSULT A PHYSICIAN. SKIN: REMOVE CONTAMINATED CLOTHING. FLUSH EXPOSED AREA WITH WATER. RINSE THOROUGHLY. CONTACT A PHYSICIAN. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONTACT PHYSICIAN. EYES:.. FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN.

## SECTION 05: FIRE FIGHTING MEASURES

FLAMMABILITY.....NON-FLAMMABLE  
IF YES, UNDER WHICH  
CONDITIONS?  
EXTINGUISHING MEDIA.....DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR FOAM.  
SPECIAL PROCEDURES.....NOT APPLICABLE.  
UNUSUAL FIRE AND EXPLOSION.....NONE KNOWN  
HAZARDS  
FLASH POINT (C), METHOD.....N.AV.  
AUTO IGNITION TEMPERATURE.....N.AV.  
UPPER FLAMMABLE LIMIT (% BY.....N.AV.  
VOL.)  
LOWER FLAMMABLE LIMIT (% BY.....N.AV.  
VOL.)  
EXPLOSION DATA  
EXPLOSIVE POWER.....N.AV.  
RATE OF BURNING.....N.AV.  
SENSITIVITY TO STATIC.....N.AV.  
DISCHARGE  
SENSITIVITY TO IMPACT.....N.AV.  
HAZARDOUS COMBUSTION PRODUCTS....MAY LIBERATE OXIDES OF ZINC, PHOSPHORUS , OR SULFUR IF INVOLVED IN FIRE.

## SECTION 06: ACCIDENTAL RELEASE MEASURES

LEAK/SPILL.....CONTAIN AND RECOVER SPILLS. NEUTRALIZE WITH ALKALINE MATERIAL SUCH AS SODA ASH, LIME AND THEN ABSORB WITH AN INERT MATERIAL SUCH AS VERMICULITE OR DRY SAND AND PLACE IT IN A CHEMICAL WASTE CONTAINER FOR PROPER DISPOSAL. DO NOT RETURN SPILLED MATERIAL TO THE ORIGINAL CONTAINER. DO NOT FLUSH TO SEWER. IF RELEASES TO ENVIRONMENT ARE IN REPORTABLE QUANTITIES, REPORT TO THE REQUIRED AGENCIES.

## SECTION 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND.....WEAR APPROPRIATE PERSONAL PROTECTION EQUIPMENT.  
EQUIPMENT

PRODUCT : CARUS UPZ 985

CODE: 294623

## SECTION 07: HANDLING AND STORAGE

STORAGE NEEDS.....STORE IN COOL, DRY PLACE. DO NOT STORE IN METAL CONTAINERS.  
USE HDPE, RUBBER LINED METAL CONTAINERS OR 316 STAINLESS  
STEEL CONTAINERS DESIGNED FOR PHOSPHORIC ACID.

## SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

GLOVES/ TYPE.....CHEMICAL RESISTANT GLOVES  
RESPIRATORY/TYPE.....APPROVED NIOSH/MSHA MIST RESPIRATOR.  
EYE/TYPE.....CHEMICAL SAFETY GOGGLES  
FOOTWEAR/TYPE.....N.AV.  
CLOTHING/TYPE.....IMPERVIOUS APRON.  
OTHER/TYPE.....EYEWASH FOUNTAIN. SAFETY SHOWER  
ENGINEERING CONTROLS.....WELL VENTILATED AREA.

## SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE.....CLEAR LIQUID  
ODOUR.....ODOURLESS  
ODOUR THRESHOLD.....N.AV.  
VAPOUR PRESSURE (MMHG).....N.AV.  
VAPOUR DENSITY (AIR=1).....N.AV.  
BY VOLUME  
BY WEIGHT  
EVAPORATION RATE.....N.AV.  
BOILING POINT.....N.AV.  
PH.....<2  
SPECIFIC GRAVITY (WATER=1).....1.32  
SOLUBILITY IN WATER (% W/W).....SOLUBLE IN ALL PROPORTIONS.  
COEFFICIENT OF WATER/OIL DIST.....N.AV.

## SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:  
YES.....STABLE  
NO, WHICH CONDITIONS?.....N.AV.  
COMPATABILITY WITH OTHER  
SUBSTANCES:  
YES  
NO, WHICH ONES?.....ALUMINUM. ZINC. MILD STEEL. STRONG CAUSTIC SOLUTIONS.  
REACTIVITY CONDITIONS?.....AVOID CONTACT WITH METAL. MAY FORM FLAMMABLE HYDROGEN GAS.  
HAZARDOUS PRODUCTS OF.....MAY LIBERATE ZINC, SULFUR OR PHOSPHORUS OXIDES IF INVOLVED  
IN FIRE.

## SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL.....SEE SECTION 02  
LC 50 OF MATERIAL, SPECIES &.....N.AV.  
ROUTE

PRODUCT : CARUS UPZ 985

CODE: 294623

## SECTION 11: TOXICOLOGICAL INFORMATION

LD 50 OF MATERIAL, SPECIES &.....N.AV.  
ROUTE  
CARCINOGENICITY OF MATERIAL.....NOT LISTED BY NTP, IARC OR OSHA.  
REPRODUCTIVE EFFECTS.....N.AV.  
IRRITANCY OF MATERIAL.....SEE SECTION 03  
SENSITIZING CAPABILITY OF.....N.AV.  
MATERIAL  
SYNERGISTIC MATERIALS.....N.AV.

## SECTION 12: ECOLOGICAL CONSIDERATIONS

NO INFORMATION AVAILABLE.

## SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL.....DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL,  
PROVINCIAL, AND LOCAL ENVIRONMENTAL REGULATIONS.

## SECTION 14: TRANSPORT INFORMATION

UN NUMBER.....3264  
TDG CLASSIFICATION.....8  
PACKING GROUP.....III  
SPECIAL SHIPPING INSTRUCTIONS....N.AV.

## 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

IARC.....INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
N.AP.=NOT APPLICABLE  
N.AV.=NOT AVAILABLE  
NTP.....NATIONAL TOXICOLOGY PROGRAM  
OSHA OSHA.....OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION



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**PRODUCT : HYDRATED LIME****CODE: 494812****SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MANUFACTURER.....GRAYMONT  
25, RUE DE LAUZON  
BOUCHERVILLE, QUE  
J4B 1E7  
PREPARED BY.....ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT  
PREPARATION DATE.....NOV 05/2002  
PRODUCT NAME.....HYDRATED LIME  
PRODUCT CODE.....494812  
CHEMICAL FORMULA.....CA(OH)2  
MOLECULAR WEIGHT.....74.08  
CHEMICAL FAMILY.....N.AV.  
MATERIAL USE.....VARIOUS. WATER TREATMENT. PULP AND PAPER  
EMERGENCY PHONE NO.....(416)-444-2112

**SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	EXPOSURE LEVELS	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
CALCIUM HYDROXIDE % :>92 CAS #:1305-62-0	5 MG/M3 TWA (ACGIH 1993-94)	7340 MG/KG (ORL-RAT)	N.AP.
CRYSTALLINE SILICA % :>0.1 CAS #:14808-60-7	1 MG/M3 ACGIH	N.AV.	N.AV.

**SECTION 03: HAZARDS IDENTIFICATION**

## ROUTE OF ENTRY:

SKIN CONTACT.....MUCOUSE AND SKIN CORROSION, REMOVES NATURAL SKIN OILS.  
SKIN ABSORPTION.....N.AV.  
EYE CONTACT.....SEVERE EYE IRRITATION, INTENSE WATERING OF THE EYES,  
POSSIBLE LESIONS, POSSIBLE BLINDNESS WHEN EXPOSED FOR  
PROLONGED PERIOD.  
INHALATION.....IF INHALED IN FORM OF DUST, IRRITATION OF BREATHING  
PASSAGES, COUGH.  
INGESTION.....IF INGESTED, PAIN, VOMITING BLOOD, DIARRHEA, COLLAPSE, DROP  
IN BLOOD PRESSURE (INDICATES PERFORATION OF ESOPHAGUS OR  
STOMACH).  
EFFECTS OF ACUTE EXPOSURE.....SEE ABOVE  
EFFECTS OF CHRONIC EXPOSURE.....CONTACT DERMATITIS.  
MEDICAL CONDITIONS AGGRAVATED....N.AV.  
BY OVEREXPOSURE



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**PRODUCT : HYDRATED LIME****CODE: 494812****SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MANUFACTURER.....GRAYMONT  
25,RUE DE LAUZON  
BOUCHERVILLE, QUE  
J4B 1E7

PREPARED BY.....ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT  
PREPARATION DATE.....NOV 05/2002  
PRODUCT NAME.....HYDRATED LIME  
PRODUCT CODE.....494812  
CHEMICAL FORMULA.....CA(OH)2  
MOLECULAR WEIGHT.....74.08  
CHEMICAL FAMILY.....N.AV.  
MATERIAL USE.....VARIOUS. WATER TREATMENT. PULP AND PAPER  
EMERGENCY PHONE NO.....(416)-444-2112

**SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	EXPOSURE LEVELS	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
CALCIUM HYDROXIDE % :>92 CAS #:1305-62-0	5 MG/M3 TWA (ACGIH 1993-94)	7340 MG/KG (ORL-RAT)	N.AP.
CRYSTALLINE SILICA % :>0.1 CAS #:14808-60-7	1 MG/M3 ACGIH	N.AV.	N.AV.

**SECTION 03: HAZARDS IDENTIFICATION**

## ROUTE OF ENTRY:

SKIN CONTACT.....MUCOUSE AND SKIN CORROSION, REMOVES NATURAL SKIN OILS.  
SKIN ABSORPTION.....N.AV.  
EYE CONTACT.....SEVERE EYE IRRITATION, INTENSE WATERING OF THE EYES,  
POSSIBLE LESIONS, POSSIBLE BLINDNESS WHEN EXPOSED FOR  
PROLONGED PERIOD.  
INHALATION.....IF INHALED IN FORM OF DUST, IRRITATION OF BREATHING  
PASSAGES, COUGH.  
INGESTION.....IF INGESTED, PAIN, VOMITING BLOOD, DIARRHEA, COLLAPSE, DROP  
IN BLOOD PRESSURE (INDICATES PERFORATION OF ESOPHAGUS OR  
STOMACH).  
EFFECTS OF ACUTE EXPOSURE.....SEE ABOVE  
EFFECTS OF CHRONIC EXPOSURE.....CONTACT DERMATITIS.  
MEDICAL CONDITIONS AGGRAVATED....N.AV.  
BY OVEREXPOSURE

**PRODUCT : HYDRATED LIME****CODE: 494812****SECTION 04: FIRST AID MEASURES**

GENERAL.....CONSULT A PHYSICIAN FOR ALL EXPOSURES EXCEPT MINOR  
INSTANCES OF INHALATION.

INSTRUCTIONS:.....SKIN:... CAREFULLY AND GENTLY BRUSH THE CONTAMINATED BODY  
SURFACES IN ORDER TO REMOVE ALL TRACES OF LIME. USE A  
BRUSH, CLOTH OR GLOVES. REMOVE ALL LIME-CONTAMINATED  
CLOTHING. RINSE CONTAMINATED AREA WITH LUKEWARM WATER FOR  
15 TO 20 MINUTES. CONSULT A PHYSICIAN IF EXPOSED AREA IS  
LARGE OR IF IRRITATION PERSISTS. EYES:. IMMEDIATELY RINSE  
CONTAMINATED EYE(S) WITH GENTLY RUNNING LUKEWARM WATER FOR  
15 TO 20 MINUTES. IN ALL CASES, IMMEDIATELY CONTACT A  
PHYSICIAN. INHALATION:... MOVE SOURCE OF DUST OR MOVE VICTIM  
TO FRESH AIR. OBTAIN MEDICAL ATTENTION IMMEDIATELY. IF  
VICTIM DOES NOT BREATHE, GIVE ARTIFICIAL RESPIRATION.  
INGESTION:... IF VICTIM IS CONSCIOUS, GIVE 300ML (10OZ) OF  
WATER, FOLLOWED BY DILUTE VINEGAR (1 PART VINEGAR, 2 PARTS  
WATER) OR FRUIT JUICE TO NEUTRALIZE THE ALKALI. DO NOT  
INDUCE VOMITING. CONTACT A PHYSICIAN IMMEDIATELY.

**SECTION 05: FIRE FIGHTING MEASURES**

FLAMMABILITY.....NOT FLAMMABLE

IF YES, UNDER WHICH  
CONDITIONS?

EXTINGUISHING MEDIA.....USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL PROCEDURES.....N.AP.

FLASH POINT (C), METHOD.....N.AP.

AUTO IGNITION TEMPERATURE.....N.AP.

UPPER FLAMMABLE LIMIT (% BY.....N.AP.  
VOL.)

LOWER FLAMMABLE LIMIT (% BY.....N.AP.  
VOL.)

EXPLOSION DATA

EXPLOSIVE POWER.....N.AV.

RATE OF BURNING.....N.AV.

SENSITIVITY TO STATIC.....N.AP.

DISCHARGE

SENSITIVITY TO IMPACT.....N.AP.

UNUSUAL FIRE AND EXPLOSION.....NONE

HAZARDS

HAZARDOUS COMBUSTION PRODUCTS.....N.AP.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

LEAK/SPILL.....LIMIT ACCESS TO TRAINED PERSONNEL. USE INDUSTRIAL VACCUMS  
FOR LARGE SPILLS. VENTILATE AREA.



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## SECTION 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND.....AVOID SKIN AND EYE CONTACT. MINIMIZE DUST GENERATION. WEAR EQUIPMENT PROTECTIVE GOGGLES AND IN CASES OF INSUFFICIENT VENTILATION, USE ANTI-DUST MASK. AN EYE WASH STATION AND SAFETY SHOWER SHOULD BE READILY AVAILABLE WHERE THIS MATERIAL OR ITS WATER DISPERSIONS ARE USED.

STORAGE NEEDS.....KEEP TIGHTLY CLOSED CONTAINERS IN A COOL, DRY AND WELL-VENTILATED AREA, AWAY FROM ACIDS. KEEP OUT OF REACH OF CHILDREN.

## SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

GLOVES/ TYPE.....GAUNTLETS CUFF STYLE.

RESPIRATORY/TYPE.....NIOSH APPROVED FILTERING ANTI-DUST MASK.

EYE/TYPE.....TIGHT FITTING GOGGLES

FOOTWEAR/TYPE.....RESISTANT TO CAUSTICS.

CLOTHING/TYPE.....FULLY COVERING SKIN.

OTHER/TYPE.....WEAR CLEAN, DRY GLOVES, FULL LENGTH PANTS OVER BOOTS, LONG SLEEVED SHIRTS BUTTONED AT THE NECK, HEAD PROTECTION AND APPROVED EYE PROTECTION SELECTED FOR THE WORKING CONDITIONS. EVALUATE DEGREE OF EXPOSURE AND USE PPE IF NECESSARY. AFTER HANDLING LIME, EMPLOYEES MUST SHOWER. IF EXPOSED DAILY, USE OIL VASELINE, SILICONE BASED CREME ETC. TO PROTECT EXPOSED SKIN PARTICULARLY NECK, FACE AND WRISTS.

ENGINEERING CONTROLS.....ENCLOSE DUST SOURCES; USE EXHAUST VENTILATION (DUST COLLECTOR) AT HANDLING POINTS, KEEP LEVELS BELOW MAX. CONCENTRATION PERMITTED.

## SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE.....SOLID. FINE WHITE POWDER

ODOUR.....NO ODOUR

ODOUR THRESHOLD.....N.AP.

VAPOUR PRESSURE (MMHG).....N.AP.

VAPOUR DENSITY (AIR=1).....N.AP.

EVAPORATION RATE.....N.AP.

BOILING POINT.....N.AP.

PH.....SATURATED SOLUTION.  $\text{Ca(OH)}_2$ . @ 25 (C) . 12.45

DENSITY.....320-690 KG/M3

SPECIFIC GRAVITY (WATER=1).....2.3-2.4

SOLUBILITY IN WATER (% W/W).....0.165G/100G @20C

COEFFICIENT OF WATER/OIL DIST....N.AP.

## SECTION 10: STABILITY AND REACTIVITY

## CHEMICAL STABILITY:

YES

NO, WHICH CONDITIONS?.....ABSORBS CARBON DIOXIDE IN THE AIR TO FORM CALCIUM CARBONATE.

## COMPATABILITY WITH OTHER

## SUBSTANCES:

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## SECTION 10: STABILITY AND REACTIVITY

YES

NO, WHICH ONES?.....BORON TRIFLUORIDE. CHLORINE TRIFLOURIDE. ETHANOL. FLUORINE.  
HYDROGEN FLUORIDE. PHOSPHOROUS PENTOXIDE. ACIDS. VIOLENT  
REACTION WITH GENERATING HEAT AND POSSIBLE EXPLOSION IN  
CONFINED AREA.

REACTIVITY CONDITIONS?.....REACTS VIOLENTLY WITH STRONG ACIDS. REACTS CHEMICALLY WITH  
ACIDS AND MANY OTHER COMPOUNDS AND CHEMICAL ELEMENTS TO  
FORM CALCIUM BASED COMPOUNDS. EXPLOSIVE WHEN MIXED WITH  
NITRO ORGANIC COMPOUNDS.

HAZARDOUS PRODUCTS OF.....THERMAL DECOMPOSITION AT 540 C WILL PRODUCE CALCIUM OXIDE  
DECOMPOSITION AND WATER.

HAZARDOUS POLYMERIZATION.....WILL NOT OCCUR

## SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL

LC 50 OF MATERIAL, SPECIES &amp;.....N.AV.

ROUTE

LD 50 OF MATERIAL, SPECIES &amp;.....7340 MG/KG. (ORAL-RAT)

ROUTE

CARCINOGENICITY OF MATERIAL.....CALCIUM HYDROXIDE IS NOT LISTED ON THE MSHA, OSHA OR IARC  
LISTS OF CARCINOGENS . HOWEVER, HYDRATED LIME COULD CONTAIN  
CRYSTALLINE SILICA, WHICH INHALED IN THE FORM OF QUARTZ OR  
CRYSTOBALITE FROM OCCUPATIONAL SOURCES, IS CLASSIFIED BY  
IARC AS (GROUP 1) CARCINOGENIC TO HUMANS.

REPRODUCTIVE EFFECTS.....N.AV.

IRRITANCY OF MATERIAL.....SEVERE TO MOIST TISSUES. EYE-RABBIT- 10MG/24HR- SEVERE.

SENSITIZING CAPABILITY OF.....N.AV.

MATERIAL

SYNERGISTIC MATERIALS.....N.AV.

## SECTION 12: ECOLOGICAL CONSIDERATIONS

NO DATA AVAILABLE.

## SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL.....IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL AND FEDERAL  
REGULATIONS.

## SECTION 14: TRANSPORT INFORMATION

UN NUMBER.....N.AP.

TDG CLASSIFICATION.....NOT REGULATED

PACKING GROUP.....N.AP.

SPECIAL SHIPPING INSTRUCTIONS....N.AP.



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## SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION.....E. D2A

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.AV.=NOT AVAILABLE

N.AP.=NOT APPLICABLE