Safety Data Sheet

Preparation Date: Mar 11, 2020 Version: 1

SECTION 1. IDENTIFICATION

Product Identifier

Product Name	SMIDCRETE C AGGREGATE (PART C)
Other Means of Identification	SILICA AGGREGATE
Recommended Use	AGGREGATE FOR 2-PART FLEXIBLE POLYURETHANE COMPOUND
Restrictions on Use	NO INFORMATION AVAILABLE
Initial Supplier Identifier	PENNKOTE LIMITED 1950 BOUNDARY ROAD WHITBY, ON L1N 8P8 CANADA
Emergency Telephone Number	CANUTEC: 1-888-226-8832 (1-888-CAN-UTEC)

SECTION 2. HAZARD IDENTIFICATION

Hazard Overview:

PRODUCT IS A CHEMICALLY INERT, NON-COMBUSTIBLE MINERAL. A SINGLE EXPOSURE WILL LIKELY NOT RESULT IN SERIOUS ADVERSE EFFECTS. LONG TERM EXPOSURE CAN CAUSE SILICOSIS. SILICOSIS IS A RESPIRATORY DISEASE WHICH CAN RESULT IN DELAYED, DISABLING AND SOMETIMES FATAL LUNG INJURY IARC AND NTP HAVE DETERMINED THAT RESPIRABLE CRYSTALLINE SILICA INHALED FROM OCCUPATIONAL SOURCES CAN CAUSE CANCER IN HUMANS. RISK OF INJURY IS DEPENDENT ON THE DURATION AND LEVEL OF EXPOSURE

GHS Classification

PHYSICAL	:	NOT CLASSIFIED
HEALTH:		CATEGORY 1A CARCINOGEN CATEGORY 1 SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)

Label Elements
HAZARD PICTOGRAMS:

ENVIRONMENTAL:	NOT CLASSIFIED
SIGNAL WORD:	DANGER
HAZARD STATEMENTS:	CAUSES DAMAGE TO LUNGS AND/OR KIDNEYS THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION MAY CAUSE LUNG CANCER
PRECAUTIONARY STATEMENTS:	DO NOT BREATHE DUST GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

WEIGHT PERCENT	CAS NO	COMPONENTS
>90%	14808-60-7	CRYSTALLINE SILICA (ALFA QUARTZ)

SECTION 4. FIRST-AID MEASURES

Most Important Symptoms and Effects, Acute and Delayed
PARTICULATES MAY CUASE ABRASIVE EYE INJURY. INHALATION OF DUST MAY CAUSE RESPIRATORY TRACT IRRIIATION. SYMPTOMS OF EXPOSURE MAY INCLUDE COUGH, SORE THROAT, NASAL CONGESTION, SNEEZING, WHEEZING AND SHORTNESS OF BREATH
PROLONGED INHALATION OF RESPIRABLE CRYSTALLINE SILICA ABOVE CERTAIN CONCENTRATIONS MAY CAUSE LUNG DISEASES, INCLUDING SILICOSIS AND LUNG CANCER

Inhalation
FIRST AID IS NOT GENERALLY REQUIRED. THE ADVERSE HEALTH EFFECTS ASSOCIATED WITH INHALATION OF RESPIRABLE CRYSTALLINE SILICA RESULT FROM CHRONIC EXPOSURE. IF THERE IS A GROSS INHALATION OF PRODUCT, REMOVE THE PERSON IMMEDIATELY TO FRESH AIR. GET MEDICAL ATTENTION IF PERSON FEELS UNWELL

Skin Contact
DERMAL CONTACT WITH THIS PRODUCT SHOULD NOT AFFECT THE SKIN. WASH EXPOSED SKIN WITH SOAP AND WATER

Eye Contact
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER OR AN OPHTHALMIC SALINE SOLUTION LIFTING THE LIDS. DO NOT RUB EYES. IF IRRIATION PERSISTS, SEEK MEDICAL ATTENTION

Ingestion
RINSE MOUTH WITH WATER. IF LARGE AMOUNTS OF PRODUCTS ARE SWALLOWED, GET IMMEDIATE MEDICAL ATTENTION

Immediate Medical Attention and Special Treatment:
NOT REQUIRED

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
PRODUCT IS NOT FLAMMABLE OR COMBUSTIBLE. IT IS COMPATIBLE WITH ALL EXTINGUISHING MEDIA. USE ANY MEDIA THAT IS APPROPRIATE FOR THE SURROUNDING FIRE

Unsuitable Extinguishing Media
NONE KNOWN

Special Protective Equipment and Precautions for Fire Fighters
NONE REQUIRED

Hazardous Decomposition Products
PRODUCT IS NOT FLAMMABLE, COMBUSTIBLE OR EXPLOSIVE

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
WEAR APPROPRIATE CLOTHING AND RESPIRATORY PROTECTION (SEE SECTION 8). AVOID GENERATING ARIBORNE DUST DURING CLEAN-UP

Environmental Precautions
NO SPECIFIC PRECAUTIONS

Methods for Containment and Cleaning Up
AVOID GENERAL DUST. IF MATERIAL IS UNCONTAMINATED, COLLECT USING DUSTLESS METHOD (HEPA VACUUM) AND PLACE IN APPROPRIATE CONTAINER FOR USE. DO NOT USE COMPRESSED AIR TO CLEAN SPILLED SAND OR GROUND SILICA. IF CONTAMINATED USE APPROPRIATE METHOD FOR THE NATURE OF CONTAMINATION AND CONSIDER POSSIBLE TOXIC OR FIRE HAZARDS THAT MAY BE ASSOCIATED WITH THE CONTAMINATED SUBSTRANCES. COLLECT MATERIAL IN APPROPRIATE CONTAINERS FOR RECOVERY AND RECYCLING OR DISPOSAL (SEE SECTION 12)

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling
AVOID GENERATING DUST. DO NOT BREATHE DUST. USE OF THIS PRODUCT MAY GENERATE ELEVATED AIRBORNE LEVELS OF CRYSTALLINE SILICA DUST NOT VISIBLE TO THE NAKED EYE. USE NORMAL PRECAUTIONS TO AVOID BAG BREAKAGE OR BULK MATERIAL SPILLS. USE PROPER WORK PRACTICES AND ADEQUATE EXHAUST VENTILATION AND DUST COLLECTION TO MAINTAIN LEVELS OF CRYSTALLINE SILICA TO BELOW THE OSHA PERMISSIBLE EXPOSURE LIMIT (PEL). MAINTAIN AND TEST VENTILATION AND DUST COLLECTION EQUIPMENT. USE AVAILABLE WORK PRACTICES TO CONTROL DUST EXPOSURES, SUCH AS WATER SPRAYS. IF AIRBORNE LEVELS OF CRYSTALLINE SILICA EXCEED THE PEL, WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING WHEN HANDLING THIS PRODUCT. DO NOT ALTER THE RESPIRATOR. DO NOT WEAR A TIGHT-FITTING RESPIRATOR WITH FACIAL HAIR, SUCH AS BEARD OR MUSTACHE THAT PREVENTS A GOOD SEAL BETWEEN THE RESPIRATOR AND FACE. MAINTAIN, CLEAN AND FIT TEST RESPIRATORS IN ACCORDANCE WITH APPLICABLE STANDARDS. REFER TO SECTION 8 FOR ADDITIONAL INFORMATION ON PERSONAL PROTECTIVE EQUIPMENT. ALSO SEE AMERICAN SOCIETY FOR TESTING AMD MATERIALS (ASTM) STANDARD PRACTICE E1132-99A (STANDARD PRACTICE FOR HEALTH REQUIREMENTS RELATING TO OCCUPATIONAL EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA)

Conditions for Safe Storage
USE DUST COLLECTION TO TRAP DUST PRODUCED DURING LOADING AND UNLOADING. KEEP CONTAINERS CLOSED AND STORE BAGS TO AVOID ACCIDENTAL TEARING, BREAKING OR BURSTING

THE OSHA HAZARD COMMUNICATION STANDARD 20 CFR 1910.1200 AND STATE/PROVINCE AND LOCAL WORKDER OR COMMUNITY “RIGHT TO KNOW” LAWS AND REGULATIONS SHOULD BE STRICTLY FOLLOWED, WHICH INCLUDES TRAINING EMPLOYEES ON THE CONTENT OF THIS SDS. WARN EMPLOYEES (AND CUSTOMERS USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE POTENTIAL HEALTH RISKS ASSOCIATED WITH USE OF THIS PRODUCT AND TRAIN THEM IN THE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, WORK PRACTICES, AND ENGINEERING CONTROLS, WHICH WILL REDUCE THEIR RISK OF EXPOSURE

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Chemical Name:
CRYSTALLINE SILICA (QUARTZ, CRISTOBALITE AND TRIDYMITE)

OSHA PEL:
0.05 mg/m3 TWA (RESPIRABLE DUST)

ACGIH (TLV):
0.025 mg/m3 TWA (RESPIRABLE DUST)

NIOSH REL:
0.05 mg/m3 TWA (RESPIRABLE DUST)

OSHA PERMISSIBLE EXPOSURE LIMITS (PEL) AND ACGIH THRESHOLD LIMIT VALUES (TLV) ARE AN 8-HOUR TIME WEIGHTED AVERAGE
(TWA) CONCENTRATION DURING A 40 HOUR WORK WEEK. NIOSH RECOMMENDED EXPOSURE LIMITED (REL) IS A TIME-WEIGHTED CONCENTRATION FOR UP TO A 10-HOUR WORK DAY DURING A 40-HOUR WORK WEEK

Appropriate Engineering Controls:
USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO MAINTAIN CONCENTRATIONS IN THE WORKPLACE BELOW THE APPLICABLE EXPOSURE LIMITS LISTED ABOVE

Individual Protection Measures:

Eye/Face Protection:
WEAR APPROPRIATE PROTECTIVE SAFETY GLASSES WITH SIDE SHIELDS OR SAFETY GOGGLES

Skin Protection:
MAINTAIN GOOD PERSONAL HYGIENE PRACTICES THAT INCLUDE WASHING EXPOSED SKIN WITH SOAP AND WATER AND LAUNDERING WORK CLOTHING THAT BECOMES DUSTY. PROTECTION IS RECOMMENDED FOR THOSE WHO SUFFER FROM DERMATITIS OR SENSITIVE SKIN

Respiratory Protection:
IF IT IS NOT POSSIBLE TO CONTROL EXPOSURES TO RESPIRABLE CRYSTALLINE SILICA BELOW THE OSHA PEL (OR OTHER EXPOSURE LIMIT), USE THE FOLLOWING TABLE TO HELP IN SELECTING RESPIRATORY PROTECTION. THIS TABLE IS PART OF NIOSH RESPIRATOR SELECTION LOGIC (2004). THE ASSIGNED PROTECTION FACTOR (APF) IS THE MINIMUM EXPECTED LEVEL OF RESPIRATORY PROTECTION PROVIDED BY A PROPERLY FUNCTIONING RESPIRATOR
RESPIRATORY PROTECTION FOR RESPIRABLE CRYSTALLINE SILICA IS BASED ON THE AIRBORNE EXPOSURE CONCENTRATION AND DURATION OF EXPOSURE FOR THE PARTICULAR USE OF THE RESPIRATOR. THE PROTECTION OFFERED BY A GIVEN RESPIRATOR MUST BE IN ACCORDANCE WITH OSHA STANDARD 29 CFR 1910.134 AND IMPLEMENTED WHENEVER THE WORKPLACE CONDITIONS WARRANT THE USE OF A RESPIRATOR. ANSI STANDARD Z88.2 (RECENT REVISION) “AMERICAN NATIONAL STANDARD FOR RESPIRATORY PROTECTION” SHOULD ALSO BE CONSIDERED. ALL TIGHT FITTING RESPIRATORS MUST BE FIT-TESTED EITHER QUALITATIVELY OR QUANTITATIVELY FOR EACH RESPIRATOR USER. USE ONLY NIOSH CERTIFIED RESPIRATORS
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Assigned Protection Factor	**Types of Respirator (NIOSH Certified Respirator)**
10	ANY AIR-PURIFYING ELASTOMERIC HALF-MASK RESPIRATOR EQUIPPED WITH APPROPRIATE TYPE OF PARTICULATE FILTER APPROPRIATE FILTERING FACEPIECE RESPIRATOR ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR EQUIPPED WITH APPROPRIATE TYPE OF PARTICULATE FILTER ANY NEGATIVE PRESSURE (DEMAND) SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A HALF-MASK
25	ANY POWERED AIR-PURIFYING RESPIRATOR EQUIPPED WITH A HOOD OR HELMET AND A HIGH EFFICIENCY (HEPA) FILTER ANY CONTINUOUS FLOW SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A HOOD OR HELMET
50	ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR EQUIPPED WITH N-100, R-100 OR P-100 FILTER(S) ANY POWERED AIR-PURIFYING RESPIRATOR EQUIPPED WITH A TIGHT-FITTING FACEPIECE (HALF OR FULL FACEPIECE) AND A HEPA FILTER ANY NEGATIVE PRESSURE (DEMAND) SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A FULL FACE PIECE ANY CONTINUOUS FLOW SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A FULL FACE PIECE ANY CONTINUOUS FLOW SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A TIGHT-FITTING FACEPIECE (HALF OR FULL FACEPIECE) ANY NEGATIVE PRESSURE (DEMAND) SELF-CONTAINED RESPIRATOR EQUIPPED WITH A FULL FACE PIECE
1000	ANY PRESSURE-DEMAND SUPPLIED-AIR RESPIRATOR EQUIPPED WITH A FULL FACE PIECE

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	WHITE OR TAN SAND, GRANULAR, CRUSHED OR GROUND TO A POWDER
Odour:	NONE
Odour Threshold:	NOT DETERMINED
pH:	6-8
Freezing Point:	N.AV.
Boiling Point:	1610 °C (2930 °F)
Initial Boiling Point/Range:	2230 °C (4046 °F)
Flash Point:	NOT APPLICABLE
Evaporation Rate:	NONE
Flammability:	NOT APPLICABLE
Upper and Lower Flammability or Explosive Limit:	NOT APPLICABLE
Specific Gravity (water=1)	2.65
Solubility in Water:	INSOLUBLE
Vapour Pressure:	NOT APPLICABLE
Vapour Density (air = 1):	NOT APPLICABLE
Partition Coefficient, n-Octanol / Water (Log Kow)	N.AV. NOT APPLICABLE
Auto-ignition Temperature:	WILL NOT BURN
Decomposition Temperature:	NOT DETERMINED
Viscosity:	NOT APPLICABLE

SECTION 10. STABILITY AND REACTIVITY

Reactivity
NOT REACTIVE UNDER NORMAL CONDITIONS OF USE

Chemical Stability
STABLE UNDER NORMAL HANDLING AND STORAGE CONDITIONS

Possibility of Hazardous Reactions
POWERFUL OXIDIZING AGENTS SUCH AS FLUORINE, CHLORINE TRIFLUORIDE AND OXYGEN DIFLUORIDE MAY CAUSE FIRES

Conditions to Avoid
AVOID GENERATION OF DUST IN HANDLING AND USE

Incompatible Materials
STRONG OXIDIZING AGENTS SUCH AS FLUORINE, CHLORINE TRIFLUORIDE, OXYGEN DIFLUORIDE AND MANGANESE TRIOXIDE MAY CAUSE FIRE

Hazardous Decomposition Products
SILICA WILL DISSOLVE IN HYDROFLUORIC ACID PRODUCING A CORROSIVE GAS, SILICON TETRAFLUORIDE

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

INHALATION
SKIN CONTACT
EYE CONTACT
INGESTION

CHEMICAL NAME	LC50	LD50 (ORAL)	LD50 (DERMAL)
CRYSTALLINE SILICA (QUARTZ)	>10,000 mg/l/72 hr (carp)	500 mg/kg (rat)	NOT AVAILABLE

Notes
INHALATION OF RESPIRABLE SILICA DUST MAY NOT CAUSE NOTICEABLE INJURY OR ILLNESS EVEN THOUGH PERMANENT LUNG DAMAGE MAY BE OCCURING

Skin Corrosion/Irritation
NO ADVERSE EFFECTS ARE EXPECTED

Serious Eye Damage/Irritation
PARTICULATES MAY CAUSE ABRASIVE INJURY

STOT (Specific Target Organ Toxicity) - Single Exposure
SEE BELOW

STOT (Specific Target Organ Toxicity) – Repeated Exposure
SEE BELOW

Aspiration Hazard
SEE BELOW

Respiratory and/or Skin Sensitization

Inhalation
INHALATION OF DUST MAY CAUSE RESPIRATORY TRACT IRRITATION. SYMPTOMS OF EXPOSURE MAY INCLUDE COUGH, SORE THROAT, NASAL CONGESTION, SNEEZING, WHEEZING AND SHORTNESS OF BREATH. HOWEVER, THERE MAY BE NO IMMEDIATE SIGNS OF SYMPTOMS OF EXPOSURE TO HAZARDOUS CONCENTRATIONS OF RESPIRABLE CRYSTALLINE SILICA (QUARTZ). SEE “INHALATION” SUBSECTION ABOVE MOST CONDITIONS

Ingestion
INGESTION IS AN UNLIKELY ROUTE OF EXPOSURE. IF DUST IS SWALLOWED, IT MAY IRRITATE THE MOUTH AND THROAT

Medical Condtions Aggrevated by Exposure
INDIVIDUALS WITH RESPIRATORY DISEASE, INCLUDING BUT NOT LIMITED TO ASTHMA AND BRONCHITISRESPIRABLE SILICA DUST MAY NOT CAUSE NOTICEABLE INJURY OR ILLNESS EVEN THOUGH PERMANENT LUNG DAMAGE MAY BE OCCURRING. INHALATION OF SILICA DUST MAY HAVE THE FOLLOWING SERIOUS CHRONIC HEALTH EFFECTS

Carcinogenicity

Silicosis
THE MAJOR CONCERN IS SILICOSIS WHICH IS CAUSED BY THE INHALATION AND RETENTION OF RESPIRABLE CRYSTALLINE SILICA DUST. SILICOSIS CAN EXIST IN SEVERAL FORMS, CHRONIC (OR ORDINARY), ACCELERATED OR ACUTE

Chronic or Ordinary Silicosis
(CAN BE REFERRED TO AS SIMPLE SILICOSIS) IS THE MOST COMMON FORM OF SILICOSIS AND CAN OCCUR AFTER MANY YEARS OF PROLONGED REPEATED EXPOSURE TO RELATIVELY LOW CONCENTRATIONS OF AIRBORNE RESPIRABLE CRYSTALLINE SILICA DUST. IT IS FURTHER DEFINED AS EITHER SIMPLE OR COMPLICATED SILICOSIS. LUNG LESIONS (SHOWN AS RADIOGRAPHIC OPACITIES) LESS THAN 1 CM IN DIAMETER CHARACTERIZE SIMPLE SILICOSIS, PRIMARILY IN UPPER LUNG ZONES. OFTEN SIMPLE SILICOSIS IS NOT ASSOCIATED WITH SUMPTOMS DETECTABLE CHANGES IN LUNG FUNCTION OR DISABILITY. SIMPLE SILICOSIS MAY BE PROGRESSIVE AND MAY DEVELOP INTO COMPLICATED SILICOSIS OR PROGRESSIVE MASSIVE FIBROSIS (PMF). COMPLICATED SILICOSIS OR PMF IS CHARACTERIZED BY LUNG LESIONS (SHOWN AS RADIOGRAPHIC OPACITIES) GREATER THAN 1 CM IN DIAMETER. ALTHOUGH THERE MAY BE NO SYMPTOMS ASSOCIATED WITH COMPLICATED SILICOSIS OR PMF, THE SYMPTOMS, IF PRESENT, MAY BE SHORTNESS OF BREATH, WHEEZING, COUGH AND SPUTUM PRODUCTION. COMPLICATED SILICOSIS OR PMF MAY BE ASSOCIATED WITH DECREASED LUNG FUNCTION AND MY BE DISABLING. ADVANCED COMPLICATED SILICOSIS OR PMF MAY LEAD TO DEATH. ADVANCED COMPLICATED SILICOSIS OR PMF CAN RESULT IN HEART DISEASE SECONDARY TO THE LUNG DISEASE (COR PUMONATE)

Accelerated Silicosis
CAN OCCUR WITH PROLONGED REPEATED INHALATION OF HIGH CONCENTRATIONS OF RESPIRABLE CRYSTALLINE SILICA OVER A RELATIVELY SHORT PERIOD, THE LUNG LESIONS CAN APPEAR WITH FIVE YEARS OF THE INITIAL EXPOSURE. PROGRESSION CAN BE RAPID. ACCELERATED SILICOSIS IS SIMILAR TO CHRONIC OR ORDINARY SILICOSIS, EXCEPT THE LUNG LESIONS APPEAR EARLIER AND THE PROGRESSION IS MORE RAPID

Acute Silicosis
CAN OCCUR AFTER THE REPEATED INHALATION OF VERY HIGH CONCENTRATIONS OF RESPIRABLE CRYSTALLINE SILICA OVER A SHORT TIME PERIOD, SOMETIMES AS SHORT AS A FEW MONTHS. THE SYMPTOMS OF ACUTE SILICOSIS INCLUDE PROGRESSIVE SHORTNESS OF BREATH, FEVER, COUGH AND WEIGHT LOSS. ACUTE SILICOSIS CAN BE FATAL

Cancer

IARC
THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (“IARC”) CONCLUDED THAT THERE WAS “SUFFICIENT EVIDENCE IN HUMANS FOR THE CARCINOGENICITY OF CRYSTALLINE SILICA IN THE FORMS OF QUARTZ OR CRISTOBALITE FROM OCCUPATION SOURCES” AND THERE IS “SUFFICIENT EVIDENCE IN EXPERIMENTAL ANIMALS FOR THE CARCINOGENIITY OF QUARTZ AND CRISTOBALITE”. THE OVERALL IARC EVALUATION WAS THAT “CRYSTALLINE SILICA INHALED IN THE FORM OF QUARTZ OR CRISTOBALITE FROM OCCUPATIONAL SOURCES IS CARCINOGENIC TO HUMANS (GROUP 1)”. THE IARC EVALUATION NOTED “CARCINOGENICITY WAS DETECTED IN ALL INDUSTRIAL CIRCUMSTANCES STUDIES CARCINOGENICITY MAY BE DEPENDENT ON INHERENT CHARACTERISTICS OF THE CRYSTALLINE SILICA OR ON EXTERNAL FACCTORS AFFECTING ITS BIOLOGICAL ACTIVITY OR DISTRIBUTION OF ITS POLYMORPHS” FOR FURTHER INFORMATION ON THE IARC EVALUATION, SEE **IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS** VOLUME 100C, “A REVIEW OF HUMAN CARCINOGENS: ARESENIC, METAILS, FIBRES AND DUSTS” (2011)

NTP
THE NATIONAL TOXICOLOGY PROGRAM (NTP), IN ITS NINTH ANNUAL REPROT ON CARCINOGENS, CLASSIFIED ‘SILICA, CRYSTALLINE (RESPIRABLE)” AS A KNOWN HUMAN CARCINOGEN

OSHA
CRYSTALLINE SILICA (QUARTZ) IS NOT REGULATED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AS A HUMAN CARCINOGEN

THERE HAVE BEEN MANY ARTICLES PUBLISHED ON THE CARCINOGENICITY OF CRYSTALLINE SILICA, WHICH THE READER SHOULD CONSULT FOR ADDITIONAL INFORMATION

Autoimmune Disease

THERE IS EVIDENCE THAT EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA (WITHOUT SILICOSIS) OR THAT THE DISEASE SILICOSIS IS ASSOCIATED WITH THE INCREASED INCIDENCE OF SEVERAL AUTOIMMUNE DISORDERS – SCIERODERMA, SYSTEMIC LUPUS ERYTHEMATOSUS, RHEUMATOID ARTHRITIS AND DISEASES AFFECTING THE KIDNEYS

Tuberculosis

INDIVIDUALS WITH SILICOSIS ARE AT INCREASED RISK TO DEVELOP PULMONARY TUBERCULOSIS, IF EXPOSED TO TUERCULOSIS BACTERIA. INDIVIDUALS WITH CHRONIC SILICOSIS HAVE A THREE-FOLD HIGHER RISK OF CONTRACTING TUBERCULOSIS THAN SIMILAR INDIVIDUALS WITHOUT SILICOSIS

Kidney Disease

THERE IS EVIDENCE THAT EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA (WITHOUT SILICOSIS) OR THAT THE DISEASE SILICOSIS IS ASSOCIATED WITH THE INCREASED INCIDENCE OF KIDNEY DISEASES, INCLUDING END STAGE RENAL DISEASE. FOR ADDITIONAL INFORMATION OF THE SUBJECT, THE FOLLOWING MAY BE CONSULTED: “KIDNEY DISEASE AND SILICOSIS”, NEPHRON, VOL 85: 14-19 (2000)

Non-Malignant Respiratory Disease

THE READER IS REFERRED TO SECTION 3.5 OF THE NIOSH SPECIAL HAZRD REVIEW CITED BELOW FOR INFORMATION CONCERNING THE ASSOCIATION BETWEEN EXPOSURE TO CRYSTALLINE SILICA AND CHRONIC BRONCHITIS, EMPHYSEMA AND SMALL AIRWAYS DISEASE. THERE ARE STUDIES THAT DISCLOSE AN ASSOCIATION BEWTEEN DUSTS FOUND IN VARIOUS MINING OCCUPATIONS AND NON-MALIGNANT RESPIRATORY DISEASES, PARTICULARLY AMONG SMOKERS. IT IS UNCLEAR WHETHER THE OBSERVED ASSOCIATIONS EIST ONLY WITH UNDERLYING SILICOSIS, ONLY AMONG SMOKERS, OR RESULT FROM EXPOSURE TO MINERAL DUSTS GENERALLY (INDEPENDENT OF THE PRESENCE OF ABSENCE OF CRYSTALLINE SILICA, OR THE LEVEL OF CRYSTALLINE SILICA IN THE DUST)

SOURCE OF INFORMATION: THE NIOSH **HAZARD REVIEW – OCCUPATIONAL EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA** PUBLISHED IN APRIL 2002 SUMMARIZES AND DISCUSSES THE MEDICAL AND EPIDERMIOLOGICAL LITERTURE ON THE HEALTH RISKS AND DISEASES ASSOCIATED WITH OCCUPATIONAL EXPOSURES TO RESPIRABLE CRYSTALLINE SILICA. THE NIOSH HAZARD REVIEW IS AVAILABLE THROUGH THE NIOSH WEBSITE, WWW.CDC.GOV/NIOSH/TOPICS/SILICA THEN CLICK ON THE LINK “NIOSH HAZARD REVIEW: HEALTH EFFECTS OF OCCUPATIONAL EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA”

THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) PUBLISHED A SUMMARY OF RESPIRABLE CRYSTALLINE SILICA HEALTH EFFECTS IN CONNECTION WITH OSHA’S PROPOSED RULE REGARDING OCCUPATIONAL EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA. THE SUMMARY WAS PUBLISHED IN THE SEPTEMBER 12, 2013 FEDERAL REGISTER, WHICH CAN BE FOUND AT WWW.FEDERALREGISTER.GOV/ARTICLES/2013/10/12/2013-20997/OCCUPATIONAL-EXPOSURE-TO-RESPIRABLE-CRYSTALLINE.SILICA

Numeric Acute Toxicity Measure – Crystalline Silica

ORAL, RAT: LD50 = >22,500 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
CRYSTALLINE SILICA (QUARTZ) IS NOT KNOWN TO BE ECOTOXIC

Persistence and Degradability
SILICA IS NO DEGRADABLE

Bioaccumulation Potential
SILICA IS NOT BIOACCUMULATIVE

Moisture in Soil
SILICA IS NOT MOBILE IN SOIL

THIS PRODUCT IS NOT EXPECTED TO PRESENT AN ENVIRONMENTAL HAZARD

SECTION 13. DISPOSAL CONSIDERATIONS

IF UNCONTAMINATED, DISPOSE AS AN INERT, NON-METALLIC MINERAL. IF CONTAMINATED, DISPOSE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, PROVINCIAL/STATE AND FEDERAL REGULATIONS IN LIGHT OF THE CONTAMINATION PRESENT. LOCAL REGULATIONS MAY BE MORE STRINGENT THAN REGIONAL AND NATIONAL REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO DETERMINE THE TOXICITY AND PHYSICAL CHARACTERISTICS OF THE MATERIAL TO DETERMINE THE PROPER WASTE IDENTIFICATION AND DISPOSAL IN COMPLIANCE WITH APPLICABLE REGULATIONS

SECTION 14. TRANSPORT INFORMATION

THIS PRODUCT IS NOT REGULATED FOR TRANSPORTATION UNDER THE U.S. D.O.T., CANADIAN TDG, IMDG OR IATA REGULATIONS

SECTION 15. REGULATORY INFORMATION

Canada

Domestic Substances List (DSL)
CRYSTALLINE SILICA (QUARTZ) IS A NATURALLY OCCURRING SUBSTANCE ON THE DSL

WHMIS Classification
CYSTALLINE SILICA – CLASS D, DIVISION 2, SUBDIVISION A (VERY TOXIC MATERIAL CAUSING OTHER TOXIC EFFECTS)

United States

TSCA
CRYSTALLINE SILICA (CAS #14808-60-7) IS LISTED ON THE EPA TOXIC SUBSTANCE CONTROL ACT (TSCA) SECTION 8 (B) INVENTORY

RCRA
CRYSTALLINE SILICA IS NOT CLASSIFIED AS HAZARDOUS WASTE UNDER THE RESOURCE CONVERSATION AND RECOVERY ACT (RCRA) OR ITS REGULATIONS, 40 CFR 261 ET SEQ

CERCLA
CRYSTALLINE SILICA (QUARTZ) IS NOT CLASSIFIED AS A HAZARDOUS SUBSTANCE UNDER REGULATIONS OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA), 40 CFR 302

SARA 311/312
HAZARD CATEGORIES FOR SARA SECTION 311/312 REPORTING: CRYSTALLINE SILICA (ACUTE AND CHRONIC HEALTH HAZARD)

SARA 313
PROUDCT CONTAINS NO CHEMICAL THAT ARE SUBJECT TO ANNUAL RELEASE REPORTING REQUIREMENTS UNDER SARA SECTION 313 (40 CFR 372)

Clean Air Act
PRODUCT WAS NOT PROCESSED WITH OR DOES NOT CONTAIN CLASS I OR II OZONE DEPLETING SUBSTANCES

Clean Water Act
NOT LISTED AS A HAZARDOUS SUBSTANCE IN SECTION 311

NTP
CRYSTALLINE SILICA (QUARTZ) IS CLASSIFIED AS A KNOWN TO BE A HUMAN CARCINOGEN

OSHA
CRYSTALLINE SILICA (QUARTZ) IS LISTED UNDER 20 CFR 1910.1000 AS A TOXIC AND HAZARDOUS SUBSTANCE

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)
CRYSTALLINE SILICA (RESPIRABLE) IS CLASSIFIED AS A SUBSTANCE KNOWN BY THE STATE OF CALIFORNIA TO CAUSE CANCER

California Inhalation Reference Exposure Level (REL)
CALIFORNIA ESTABLISHED A CHRONIC NON-CANCEL EFFECT REL OF 3 ug/m3 FOR SILICA (CRYSTALLINE, RESPIRABLE). A CHRONIC REL IS AN AIRBORNE LEVEL OF A SUBSTANCE AT OR BELOW WHICH NO NON-CANCER HEALTH EFFECTS ARE ANTICIPATED IN INDIVIDUALS INDEFINITELY EXPOSED TO THE SUBSTANCE AT THAT LEVEL

Massachusetts Toxic Use Reduction Act
SILICA, CRYSTALLINE (RESPIRABLE SIZE <10 MICRONS) IS “TOXIC” FOR PURPOSES OF THE MASSACHUSETTS TOXIC USE REDUCTION ACT

Pennsylvania Worker and Community Right to Know Act
QUARTZ IS A HAZARDOUS SUBSTANCE UNDER THE ACT BUT IT IS NOT A SPECIAL HAZARDOUS SUBSTANCE OF AN ENVIRONMENTAL HAZARDOUS SUBSTANCE

Texas Commission of Environmental Quality
THE TEXAS CEQ HAS ESTABLISHED CHRONIC AND ACUTE REFERENCE VALUES AND SHORT TERM AND LONG TERM EFFECTS SCREENING LEVELS FOR CRYSTALLINE SILICA (QUARTZ) THE INFORMATION CAN BE ACCESSED THROUGH WWW.TCEQ.TEXAS.GOV

Other

IARC
CRYSTALLINE SILICA (QUARTZ) IS CLASSIFIED IN IARC GROUP 1 CARCINOGEN

European Inventory of Commercial Chemical Substances
CRYSTALLINE SILICA (QUARTZ) IS LISTED ON EINECS INVENTORY: THE EINECS NUMBER FOR QUARTZ: 238-878-4

European Community Labelling
HARMFUL Xn
CONTAINS CRYSTALLINE SILICA, QUARTZ (238-878-4)
R48/20 HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE BY INHALATION
S22 DO NOT BREATHE DUST
S38 IN CASE OF INSUFFICIENT VENTILATION, WEAR SUITABLE RESPIRATORY PROTECTION

Notes
PROVINCIAL, STATE, NATIONAL OR LOCAL EMERGENCY PLANNING, COMMUNITY RIGHT-TO-KNOW OR OTHER LAWS, REGULATIONS OR ORDINANCES MAY BE APPLICABLE, CONSULT APPLICABLE PROVINCIAL, STATE, NATIONAL OR LOCAL LAWS

SECTION 16. OTHER INFORMATION

Hazardous Material Information System (HMIS)
HEALTH *
FLAMMABILITY 0
PHYSICAL HAZARD 0
PERSON PROTECTION E
*WARNING – CHRONIC HEALTH EFFECT POSSIBLE – INHALATION OF SILICA DUST MAY CAUSE LUNG INJURY/DISEASE (SILICOSIS). TAKE APPROPRIATE MESAURE TO AVOID BREATHING DUST. SEE SECTION 8

National Fire Protection Association (NFPA)
HEALTH 0
FLAMMABILITY 0
REACTIVITY 0

OSHA WEBSITE: HTTPS://WWW.OSHA.GOV/DSG/TOPICS/SILICACRYSTALLINE/INDEX.HTML

NIOSH WEBSITE: HTTP://WWW.CDC.GOV/NIOSH/TOPICS/SILICA

NIOSH HAZARD REVIEW: HEALTH EFFECTS OF OCCUPATIONAL EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA HTTP://WWW.CDC.GOV/NIOSH/DOCS/2002-129/

IARC MONOGRAPH CONCERNING CRYSTALLINE SILICA, VOLUME 100C
HTTP://MONOGRAPHS.IARC.FR/ENG/MONOGRAPHS/PDFS/INDEX/PHP

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User's Responsibility
THE OSHA HAZRD COMMUNICATION STANDARD 20 CFR 1910:1200 REQUIRE THAT THIS SAFETY DATA SHEET BE MADE AVAILABLE TO YOUR EMPLOYEES WHO HANDLE OR MAY BE EXPOSED TO THIS PRODUCT. EDUCATE AND TRAIN YOUR EMPLOYEES REGARDING APPLICABLE PRECAUTIONS. INSTURCT YOUR EMPLOYEES TO HANDLE THIS PRODUCT PROPERLY

Disclaimer

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