

HENTZEN COATINGS, INC. -- GREEN 383 ZENTHANE MIL-C-53039A #08605GUZ-GD --
8010-01-229-9561

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===== Product Identification =====

Product ID:GREEN 383 ZENTHANE MIL-C-53039A #08605GUZ-GD

MSDS Date:04/28/1998

FSC:8010

NIIN:01-229-9561

Status Code:A

MSDS Number: CJHKX

=== Responsible Party ===

Company Name:HENTZEN COATINGS, INC.

Address:6937 WEST MILL ROAD

Box:18642

City:MILWAUKEE

State:WI

ZIP:53218

Coun

try:US

Info Phone Num:414-353-4200

Emergency Phone Num:414-353-4200,DAY 800-424-9300,NITE

Preparer's Name:JANE FREEMAN

Chemtrec Ind/Phone:(800)424-9300

CAGE:09225

=== Contractor Identification ===

Company Name:HENTZEN COATINGS INC

Address:6937 WEST MILL ROAD

Box:18749

City:MILWAUKEE

State:WI

ZIP:53218

Country:US

Phone:414-353-4200

Contract Num:GS-10F-40821

CAGE:09225

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===== Composition/Information on Ingredients =====

Ingred Name:SILICA, CRYSTALLINE

CAS:14808-60-7

RTECS #:VV7

330000
Fraction by Wt: 20-30%
Other REC Limits:NONE
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.1 MG/M3

Ingred Name:XYLENE (SARA III)
CAS:1330-20-7
RTECS #:ZE2100000
Fraction by Wt: 3.6570%
Other REC Limits:STEL=150 PPM
OSHA PEL:100 PPM
ACGIH TLV:100 PPM
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:CHROMIC OXIDE (CHROMIUM COMPOUND)
CAS:1308-38-9
Fraction by Wt: 8.1510%
Other REC Limits:68% TRIVALENT CHROME
OSHA PEL:0.5 MG/M3(AS CHROME)
ACGIH TLV:0.5 MG/M3(AS CHROME)
EPA Rpt Qty:1 LB
DOT Rpt Qty:1
LB

Ingred Name:AROMATIC HYDROCARBONS (MIXTURE OF C8'S TO C10'S)
CAS:64742-95-6
Fraction by Wt: 1.3920%
Other REC Limits:100 PPM=MFR'S LIMIT

Ingred Name:BUTYL ACETATE (SARA III)
CAS:123-86-4
RTECS #:AF7350000
Fraction by Wt: 1.1630%
Other REC Limits:200 PPM=STEL
OSHA PEL:150 PPM
ACGIH TLV:150 PPM
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:HEXAMETHYLENE DIISOCYANATE MONOMER
CAS:822-06-0
RTECS #:MO1740000
Fraction by Wt: .0350%
Other REC Limits:NONE
OSHA PEL:0.005 PPM
ACGIH TLV:0.00

5 PPM
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE
CAS:28182-81-2
RTECS #:NQ9170000
Fraction by Wt: 20-30%
Other REC Limits:TWA=0.5MG/M3(MFR)

Ingred Name:YELLOW IRON OXIDE PIGMENT
CAS:51274-00-1
Fraction by Wt: 1-5%
Other REC Limits:IRON OXIDE FUME
OSHA PEL:5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:METHYL ISOAMYL KETONE
CAS:110-12-3
RTECS #:MP3850000
Fraction by Wt: 22.0470%
OSHA PEL:50 PPM
ACGIH TLV:50 PPM

Ingred Name:VM&P NAPHTHA
CAS:64742-89-8
Fracti
on by Wt: 4.6700%
OSHA PEL:300 PPM
ACGIH TLV:300 PPM

Ingred Name:CHROME III, ZINC AND COBALT COMPOUND (CONTAINS 45% CHROME
III; 20% ZINC; 15% COBALT)
Fraction by Wt: 3.8820%
OSHA PEL:.5MGM3CR(III);.1(CO)
ACGIH TLV:.5MGM3CR(III);.02 CO

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===== Hazards Identification =====

Reports of Carcinogenicity:NTP:YES IARC:YES
Health Hazards Acute and
Chronic:ACUTE:EYES:IRRIT/TEARING/REDDENING/SWELLING/STINGING.IF
UNTREATED:CORNEAL DAMAGE/SLOW TO
HEAL.SKI

N:IRRIT:REDDENING/RASH/SWELLING/SCALING/BLISTERING/POSSIBLE SKIN SENSITIZATION.IF MATERIAL DRIES ON SKI N:REMOVAL VERY DIFFICULT.REPEATED/PROLONGED SKIN CONTACT:POSSIBLE DEFATTING/DERMATITIS.INHAL:ANESTHETIC.POSSIBLE RESP TRACT IRRIT/ACUTE NERVOUS SYSTEM DEPRESSION SHOWN BY HEADACHE/DIZZINESS/STAGGERING /CONFUSION/UNCONSCIOUSNESS.ISOCYANATES IRRIT/BURN MUCOUS MEMBRANE IN RESP TRACT(NOSE/THROAT/LUNGS):RUNNY NOSE/SOAR THROAT/COUGHING/CHEST DISCOMFORT/SHORTENED BREAT H/REDUCED LUNG

FUNCTION/BREATHING OBS TRUCTION.*CONTINUED UNDER SIGNS/SYMPTOMS
Explanation of Carcinogenicity:CARCINOGENIC CHROMIUM/CHROMIUM COMPOUNDS & COBALT COMPOUNDS INHUMANS/ANIMALS:HEXAVALENT.THIS PRODUCT CONTAINS TRIVALENT CHROMIUM COMPOUND.IARCH LISTS CRYSTALLINE SILICA:GROUP 1,CARCENOGENIC TO HUMANS.N TP LISTS CRYSTALLINE SILICA:REASONABLY ANTICIPATED TO BE CARCINOGEN:MAY CAUSE LUNG INJURY IF RESP PRECAUTIONS NOT USED.

Effects of Overexposure:CONTINUED HEALTH HAZ:I

NHAL:POSSIBLE ASTHMA-LIKE

SYMPTOMS/ASTHMA ATTACK.POSSIBLE BRONCITIS/BRONCHIAL SPASM/PULMONARY EDEMA.THESE EFFECTS USUALLY REVERSABLE.POSSIBLE CHEMICAL PNEUMONITIS W/FLU-LIKE SYMP TOMS(FEVER/CHILLS).POSSIBLE THROAT DRYNESS/CHEST TIGHTNESS/HEADACHE/NAUSEA/FATIGUE/APPETITE LOSS.INGEST:IRRIT/POSSIBLE CORROSIVE ACTION:MOUTH/STOMACH TISSUE/DIGEST TRACT.SYMPTOMS:SOAR THROAT/ABDOMONAL PAIN/NAUSEA/VOMITING/DIARRHEA.VOMITING CAUSE POSSIBLE ASPIRATION OF SOLVENT INTO LUNGS

LEADING TO CHEMICAL PNEUMONITITS. **CONTINUED

UNDER TOXICOLOGICAL SECTION (SIGN&SYMPTOMS LISTED BELOW UNDER MED COND AGGRAVATED)

Medical Cond Aggravated by Exposure:ASTHMA/OTHER RESP AILMENTS.SKIN ALLERGIES/EXEMA.CHEM SENSTZATION.SIGNS&SYMPTOMS:HARMFUL IF INHALED.EFFECTS:NOSE,THROAT,RESP TRACT IRRIT,ALERGIC RESP REACTION,LUNG DAMAGE,EYE&SKIN IRRIT,SKIN REACTIONS.

===== First Aid Measures =====

First Aid:EYES: FLUSH IMMED WI/LOW PRESSURE

LUKE WARM WATER FOR 15

MINUTES, LIFTING LIDS TO RINSE ENTIRE EYE. TAKE TO DR IMMED.SKIN: REMOVE CONTAMINATED CLOTHING IMMED & WASH THOROUGHLY BEFORE REUSE. WASH EFFEC TED AREAS THOROUGHLY W/SOAP/WATER. SEVERE EXPOSURE:GET UNDER SAFETY SHOWER AFTER REMOVING CLOTHING. CALL DR IN BOTH CASES.INHAL:REMOVE TO RISK FREE AREA.ADMINISTER OXYGEN/ARTIFICIAL RESP AS NEEDED. GE T DR. POSSIBLE ASTHMIATIC TYPE SYMPTOMS IMMED OR SEVERAL HOURS LATER. SEE DR. INGEST:CALL DR IMMED! DO

NOT INDUCE
VOMITING.

===== Fire Fighting Measures =====

Flash Point:=12.2C, 54.F

Autoignition Temp:=232.2C, 450.F

Lower Limits:.90

Upper Limits:8.20

Extinguishing Media:FOAM, DRY CHEMICAL AND CO2 OR ALCOHOL FOAM

Fire Fighting Procedures:FULL PROTECT EQUIP W/ SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN.DURING FIRE, IRRIT & HIGHLY TOXIC GASES & SMOKE ARE PRESENT FROM DECOMP/COMBUST PRODS.KEEP CONTRS TIGHTLY CLOSED.ISOLATE FROM HE AT/ELECTRICAL EQUIP/SPARKS/OPEN FLAMES.

Unusual Fire/Explosion Hazard:CLOSED CONTRS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR BURST WHEN CONTAM W/ H2O (CO2 RELEASED).DO NOT APPLY TO HOT SURFACES.NEVER USE WELDING/CUTTING TORCH ON/NEAR CONTRS(EVEN EMPTY) B/C PRODUCT(EV EN RESIDUE) CAN IGNITE EXPLOSIVELY.FLAMMABLE LIQUID!KEEP AWAY FROM HEAT/SPARKS/FLAME.VAPORS MAY CAUSE FLASH FIRE.

===== Accidental Release Measures =====

Spill Release Procedures:EVAC NON-E

SENTIAL PERSONNEL.REMOVE ALL IGNIT

SOURCES:FLAMES/HOT SURFACES/ELECTRICAL/STATIC & FRICTIONAL SPARKS.VENTILATE AREA.EQUIP CLEAN UP CREW W/APRROP PROTECTIVE EQUIP.AVOID BREATH VAPORS/SKIN CONTACT.COVER SPILL W/INERT ABSORBENT.POUR LIQUID DECONTAM OVER SPILL:LET STAND 10 MIN.COLLECT MATERIAL IN OPEN CONTNRS/ADD FURTHER AMOUNTS DECONTAM SOLUTION.***CONT UNDER ECOLOGICAL SECTION

Neutralizing Agent:CONCENTRTD AMONIA(3-8%),DETERGENT(2%)&H2O(90-95%).OR SOLUTION OF NIACT COP'S TERGITOL TMN-10(20%) & H2O(80%).

===== Handling and Storage =====

Handling and Storage Precautions:PROTECT PERSONS HANDLING PRODUCT:MUST NOT BREATHE VAPORS/CONTACT EYES/SKIN. IN SPRAY OPERATIONS:PROTECTION AFFORDED AGAINST EXPOSURE TO VAPOR/SPRAY MIST.CAN CAUSE IRRIT TO EYES/SKIN/NOSE/THROAT.AVOID EYES/CLOTHING CONTACT.WASH THOROUGHLY AFTER HANDLING. AVOID PROLONGED/REPEATED CONTACT W/SKIN.

Other Precautions:USE GROUNDING/BONDING CON

NECTIONS IN TRANFERING

MATERIAL TO PREVENT STATIC DISCHARGE/FIRE OR EXPLOSION.AVOID LIQUID FREE-FALL>FEW INCHES.USE SPARK PROOF TOOLS/EXPLOSION PROOF EQUIP.DON'T STORE ABOVE 1 20F OR BELOW 32 F.STORE LG QUANTITIES IN BUILDINGS THAT COMPLY W/OSHA'S 29 CFR 1910.106. ****CONT UN DER ECOLOGICAL

===== Exposure Controls/Personal Protection =====

Respiratory Protection:AIRLINE RESPIRATORS UNLESS AIR SAMPLING SHOWS EXPOSURE TO BE BELOW OSHA LIMITS. THEN, EITHE R CHEMICAL CARTRIDGE

RESPIRATORS OR AIRLINE RESPIRATORS ARE REQUIRED.USE SAME PRECAUTIONS DURING MIXING OR WH ERE PAINT FUMES WOULD BE PRESENT. ****CONTINUED UNDER OTHER INFORMATION SECTION

Ventilation:EXHAUST TO KEEP AIRBORN CONTAMS BELOW EXPOSURE LIMITS.CLEAN EXHAUST AIR BY SCRUBBER/FILTERS.VENT CURING OVENS.IF OVEN OFF,GASES NOT VENTED PROPERLY

Protective Gloves:PERMIATION RESISTANT GLOVES

Eye Protection:SAFETY EYE WEAR W/SPLASH GUARDS OR SIDE SHIELDS.FACE SHIELD.NO C ONTACT LENSES.

Other Protective Equipment:WEAR PROTECTIVE CLOTHING TO KEEP SKIN CONTACT AT A MINIMUM.KEEP SKIN CREAM PROTECTED AREAS TO A MINIMUM.SAFETY SHOWERS/EYE WASH STATIONS.TRAIN EMPLOYEES IN SAFE USE OF THIS PRODUCT.

Work Hygienic Practices:ONCE A PERSON IS SENSITIZED TO ISOCYANATES, NO FURTHER EXPOSURE CAN BE PERMITTED.

Supplemental Safety and Health

MEDICAL SUPERVISION OF ALL EMPLOYEES HANDLING THIS PRODUCT RECOMMENDED.SHOULD INCLUDE PRE-EMPLOYMENT & PERIODIC MEDICAL EXAMS

W/ RESP FUNCTION TESTS(FEV, FVC MINIMUM).PERSONS W/ASTHMA-TYPE CONDITIONS/ BRONCHITIS/OTHER RESP DISEASES OR RECURRENT SKIN EXEMA/SENSITIZATION SHOULD BE EXCLUDED FROM WORKING W/ISOCYANATES.

===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:244 F TO 418 F

Vapor Pres:15

Vapor Density:4.800

Spec Gravity:1.2460

VOC Pounds/Gallon:419

Evaporation Rate & Reference:2.0000 (N-BU AC=1)

Solubility in Water:REACTS WITH WATER

Appearance and Od

or:OPAQUE LIQUID, SOLVENT ODOR
Percent Volatiles by Volume:51.408

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

WATER/MOISTURE,EPOXY CATALYSTS,ALCOHOLS,GLYCOL ETHERS,BASES,METAL COMPLEXES,OR OTHER ACTIVE MATERIALS.

Stability Condition to Avoid:ONCE PRODUCT IS EXPOSED TO ANY MATERIALS LISTED BELOW (INCLUD ATMOSPHERIC MOISTURE), DO NOT RESEAL CONTR AS HAZ CO2 GAS COULD BUILD UP IN CONTR RESULTING IN RAPID DEPRESSURIZATION.

Hazardous Decomposition Products:MAY PRODUCE HAZ FUMES WHEN HEATED TO DECOMP POINT(AS IN WELDING). FUMES MAY CONTAIN:CO2, CO, CHLORINE,HYDROGEN CHLORIDE & POSSIBLE CYANIDE, HEXAMETHYLENE DIISOCYANATE.

===== Toxicological Information =====

Toxicological Information:*CONT HEALTH HAZ CHRONIC:POSSIBLE PERMANENT BRAIN,NERVOUS SYSTEM,LUNG,LIVER&KIDNEY DAMAGE.CERTAIN PERSONS DEVELOP ISOCYANATE SENSITIZATION(CHEMICAL ASTHMA)CAUSING REACTIONS TO LATER EXPOSURE WELL