

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

===== 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

Country:US

Info Phone Num:414-353-4200

Emergency Phone Num:414-353-4

200,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

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

Ingred Name:SILICA, CRYSTALLINE

CAS:14808-60-7

RTECS #:VV7330000

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:0.005 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
Fraction 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

===== 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.SKIN:IRRIT:REDDENING/RASH/SWELLING/SCALING/BLISTERING/POSSIBLE

SKIN SENSITIZATION.IF MATERIAL DRIES ON SKIN: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 BREATH/REDUCED LUNG
FUNCTION/BREATHING OBSTRUCTION.*CONTINUED UNDER
DER SIGNS/SYMPTOMS

Explanation of Carcinogenicity:CARCINOGENIC CHROMIUM/CHROMIUM COMPOUNDS
& COBALT COMPOUNDS IN HUMANS/ANIMALS:HEXAVALENT.THIS PRODUCT
CONTAINS TRIVALENT CHROMIUM COMPOUND.IARC LIST 1 CRYSTALLINE
SILICA:GROUP 1,CARCINOGENIC TO HUMANS.NTP LIST 1 CRYSTALLINE
SILICA:REASONABLY ANTICIPATED TO BE CARCINOGEN:MAY CAUSE LUNG
INJURY IF RESP PRECAUTIONS NOT USED.

Effects of Overexposure:CONTINUED HEALTH HAZ:INHAL:POSSIBLE ASTHMA-LIKE
SYMPTOMS/ASTHMA ATTACK.POSSIBLE BRONCHITIS/BRONCHIAL SPASM/PULMONARY
EDEMA.THESE EFFECTS USUALLY REVERSABLE.POSSIBLE CHEMICAL
PNEUMONITIS W/FLU-LIKE SYMPTOMS(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/ABDOMINAL
PAIN/NAUSEA/VOMITING/DIARRHEA.VOMITING CAUSE POSSIBLE ASPIRATION OF
SOLVENT INTO LUNGS LEADING TO CHEMICAL PNEUMONITIS. **CONTINUED
UNDER TOXICOLOGY

TOXICOLOGY SECTION (SIGN&SYMPTOMS LISTED BELOW UNDER MEDICAL
CONDITIONS AGGRAVATED)

Medical Conditions Aggravated by Exposure:ASTHMA/OTHER RESP AILMENTS.SKIN
ALLERGIES/EXEMA.CHEM SENSITIZATION.SIGN&SYMPTOMS:HARMFUL IF
INHALED.EFFECTS:NOSE,THROAT,RESP TRACT IRRIT,ALLERGIC RESP
REACTION,LUNG DAMAGE,EYE&SKIN IRRIT,SKIN REACTIONS.

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

First Aid:EYES: FLUSH IMMEDIATE W/LOW PRESSURE LUKE WARM WATER FOR 15
MINUTES, LIFTING LIDS TO RINSE ENTIRE EYE. TAKE TO DR IMMEDIATE.SKIN:
REMOVE CONTAMINATED CLOTHING IMMEDIATE & WASH THOROUGHLY BEFORE REUSE.
WASH EFFECTED 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. GET DR. POSSIBLE ASTHMATIC TYPE SYMPTOMS IMMEDIATE OR
SEVERAL HOURS LATER. SEE DR. INGEST:CALL DR IMMEDIATE! DO NOT INDUCE
VOMITING.

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

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 HEAT/ELECTRICAL EQUIP/SPARKS/OPEN FLAMES.

Unusual Fire/Explosion Hazard:CLOS

ED 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(EVEN 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-ESSENTIAL PERSONNEL.REMOVE ALL IGNIT SOURCES:FLAMES/HOT SURFA

CES/ELECTRICAL/STATIC & FRICTIONAL

SPARKS.VENTILATE AREA.EQUIP CLEAN UP CREW W/APPROP 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:CONCENTRD AMONIA(3-8%),DETERGENT(2%)&H2O(90-95%).OR SOLUTION OF NIAC CORP'S TERGITOL TMN-10(20%) & H2O(80%).

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

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 CONNECTIONS IN TRANSFERING 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 120F OR BELOW 32 F.STORE LG QUANTITIES IN BUILDINGS THAT COMPLY W/OSHA'S 29 CFR 1910.106. ****CONT UNDER ECOLOGICAL

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

Respiratory Protection:AIRLINE RESPIRATORS UNLESS AIR SAMPLING SHOWS EXPOSURE TO BE BELOW OSHA LIMITS. THEN, EITHER CHEMICAL CARTRIDGE RESPIRATORS OR AIRLINE RESPIRATORS ARE REQUIRED.USE SAME

PRECAUTIONS DURING MIXING OR WHERE 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 CONTACT 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/AS

THMA-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 Odor:OPAQUE LIQUID, SOLVENT ODOR

Percent Volatiles by Volume:51.40

===== 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 (INCLUDING ATMOSPHERIC MOISTURE), DO NOT RESEAL CONTAINER AS HAZARDOUS CO₂ GAS COULD BUILD UP IN CONTAINER RESULTING IN RAPID DEPRESSURIZATION.

Hazardous Decomposition Products: MAY PRODUCE HAZARDOUS FUMES WHEN HEATED TO

DECOMPOSITION POINT (AS IN WELDING). FUMES MAY CONTAIN: CO₂, CO, CHLORINE, HYDROGEN CHLORIDE & POSSIBLE CYANIDE, HEXAMETHYLENE DIISOCYANATE.

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

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