

HENTZEN COATINGS, INC. -- BROWN 383 ZENTHANE MIL-C-53039A #08606TUZ-GD --  
8010-01-229-7543

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

Product ID:BROWN 383 ZENTHANE MIL-C-53039A #08606TUZ-GD

MSDS Date:04/28/1998

FSC:8010

NIIN:01-229-7543

Status Code:A

MSDS Number: CJHLP

=== Responsible Party ===

Company Name:HENTZEN COATINGS, INC.

Address:6937 WEST MILL ROAD

Box:18642

City:MILWAUKEE

State:WI

ZIP:53218

Cou

ntry: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

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

Ingred Name:SILICA, CRYSTALLINE

CAS:14808-60-7

RTECS #:VV

7330000

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: 3.1350%

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:AROMATIC HYDROCARBONS (MIXTURE OF C8'S TO C10'S)

CAS:64742-95-6

Fraction by Wt: 1.1730%

Other REC Limits:100 PPM=MFR'S LIMIT

Ingred Name:BUTYL ACETATE (SARA III)

CAS:123-86-4

RTECS #:AF7350000

Fract

ion by Wt: 1.1730%

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: 23.1380%  
OSHA PEL:50 PPM  
ACGIH TLV:50 PPM

Ingred Name:VM&P NAPHTHA  
CAS:64742-89-8  
Fraction by Wt: 4.8040%  
OSHA PEL:300 PPM  
ACGIH TLV:300 PPM

Ingred Name:BLACK IRON OXIDE PIGMENT  
CAS:1317-61-9  
Fraction by Wt: 1-5%  
Other REC Limits:IRON OXIDE FUME  
OSHA PEL:5 MG/M3  
ACGIH TLV:5 MG/M3

Ingred Name:CHROMIC OX  
IDE  
CAS:1308-38-9  
RTECS #:GB6475000  
Fraction by Wt: 7.5610%  
Other REC Limits:68%TRIVALENT CHROME  
OSHA PEL:0.5 MG/M3(CHROME)  
ACGIH TLV:0.5MG/M3(AS CHROME)

Ingred Name:RED IRON OXIDE  
CAS:1309-37-1  
RTECS #:NO7400000  
Fraction by Wt: 1-5%  
Other REC Limits:IRON OXIDE FUME  
OSHA PEL:5 MG/M3  
ACGIH TLV:5 MG/M

===== 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 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 BREATH/REDUCED LUNG FUNCTION/BREATHING OBS TRUCTION.\*CONTINUED UNDER SIGNS/SYMPTOMS

Explanation of Carcinogenicity:NTP,IARCH,&ACGIH:HEXAVALENT CHROMIUM COMPOUNDS CARCINOGENIC IN HUMANS/ANIMALS.PRODUCT CONTAINS TRIVALENT CHROMIUM COMPOUND.IARC LISTS CRYSTALLINE SILICA AS GROUP 1,CARCENOGENIC TO HUMANS.NTP CLASSIFIES RESPIRABLE CRYSTALLINE SILICA AS 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 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/DI

ARRHEA.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.

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===== First Aid Measures  
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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/COM  
BUST 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 Relea  
se Measures =====

Spill Release Procedures:EVAC NON-ESSENTIAL 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 CO N TACT.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:CONCENTRT  
D AMONIA(3-8%),DETERGENT(2%)&H2O(90-95%).OR  
SOLUTION OF NIACT CORP'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/REPE

ATED

CONTACT W/SKIN.

Other Precautions:USE GROUNDING/BONDING CONNECTIONS 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, EITHER 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 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 PROD UCT

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:1.2350

VOC Grams/Liter:3.5

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:51.591

===== 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 DEVE

LOP ISOCYANATE SENSITIZATION(CHEMICAL ASTHMA)CAUSING REACTIONS TO LATER EXPOSURE WELL