

HENTZEN COATINGS, INC. -- BROWN 383 ZENTHANE MIL-C-53039A #08606TUZ-GD --
8010-01-229-7544

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

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

MSDS Date:04/28/1998

FSC:8010

NIIN:01-229-7544

Status Code:A

MSDS Number: CJHWG

=== 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

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===== 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:METHYL ISOAMYL KET

ONE
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 OXIDE
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 SENSITIZATIO

N.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 SIGNS/SYMPTOM

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Explanation of Carcinogenicity:NTP,IARC,&ACGIH:HEXAVALENT CHROMIUM COMPOUNDS CARCINOGENIC IN HUMANS/ANIMALS.PRODUCT CONTAINS TRIVALENT CHROMIUM COMPOUND.IARC LISTS CRYSTALLINE SILICA AS GROUP 1,CARCINOGENIC 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 BRONCHITIS/BRO

NCIAL 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 TOXICOLOGICAL SECTION

ON (SIGN&SYMPTOMS LISTED BELOW UNDER MEDICAL CONDITION AGGRAVATED)

Medical Condition Aggravated by Exposure:ASTHMA/OTHER RESP AILMENTS.SKIN ALLERGIES/EXEMA.CHEM SENSITIZATION.SIGNS&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 IMMEDIATELY WITH LOW PRESSURE LUKE WARM WATER FOR 15 MINUTES, LIFTING LIDS TO RINSE ENTIRE EYE. TAKE TO DR IMMEDIATELY.SKIN: REMOVE CONTAMINATED CLOTHING IMMEDIATELY & WASH THOROUGHLY BEFORE REUSE. WASH EFFECTED AREAS THOROUGHLY WITH 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 TO DR. POSSIBLE ASTHMATIC TYPE SYMPTOMS IMMEDIATELY OR SEVERAL HOURS LATER. SEE DR. INGEST:CALL DR IMMEDIATELY! DO NOT INDUCE VOMITING.

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

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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 M

AY 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-ESSENTIAL PERSONNEL.REMOVE ALL IGNIT SOURCES:FLAMES/HOT SURFACES/ELECTRI

CAL/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:CONCENTRTD 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/REPEATED CONTACT W/SKIN.

Other Precautions:USE GROUNDING/BONDING CONNECTIONS IN TRANFERING MATERIAL TO PREVENT STATIC DISCHARGE/FIRE OR EXP

LOSION.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.US

E 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/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

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===== 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