

HENTZEN COATINGS, INC. -- #33303 SAND ZENTHANE, MIL-C-53039A -- 8010-01-234-2934  
===== Product Identification =====

Product ID:#33303 SAND ZENTHANE, MIL-C-53039A  
MSDS Date:04/28/1998  
FSC:8010  
NIIN:01-234-2934  
Status Code:A  
MSDS Number: CJHKY  
=== Responsible Party ===  
Company Name:HENTZEN COATINGS, INC.  
Address:6937 WEST MILL ROAD  
Box:18642  
City:MILWAUKEE  
State:WI  
ZIP:53218  
Country:US  
Info Phone Number: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:METHYL ISOBUTYL KEITONE  
CAS:108-10-1  
Fraction by Wt: 2.7330%  
Othe

r REC Limits:75 PPM=STEL  
OSHA PEL:50 PPM  
ACGIH TLV:50 PPM

Ingred Name:TITANIUM DIOXIDE  
CAS:13463-67-7  
RTECS #:XR2275000  
Fraction by Wt: 5-10%  
Other REC Limits:NONE  
OSHA PEL:10 MG/M3  
ACGIH TLV:10 MG/M3

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: 1.8040%  
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: 3.4940%  
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: 1.2590%  
Other REC Limits:100 PPM=MFR'S LIMIT

Ingred Name:BUTYL ACETATE (SARA III)  
CAS:123-86-4  
RTECS #:AF7350000  
Fraction by Wt: 1.2580%  
Oth

er 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: .0380%  
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: 26.6650%  
OSHA PEL:50 PPM  
ACGIH TLV:50 PPM

===== 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/SWE

LLING/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 FUNCTIO

N/BREATHING OBS TRUCTION.\*CONTINUED UNDER SIGNS/SYMPTOMS

Explanation of Carcinogenicity:CARCINOGENIC CHROMIUM/CHROMIUM COMPOUNDS IN HUMANS/ANIMALS:HEXAVALENT.THIS PRODUCT CONTAINS TRIVALENT CHROMIUM COMPOUND.IARCH LISTS CRYSTALLINE SILICA:GROUP 1,CARCENOGENIC TO HUMANS.NTP LISTS CRYSTALLIN E 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/ASTHM

A 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. \*\*CONTINUE

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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.

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=== Fire Fighting Measures =====

Flash Point:=15.6C, 60.F

Lower Limits:1.0

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

L/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 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 EXPLO

SION.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/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:232 F TO 418 F

Vapor Pres:15

Vapor Density:4.800

Spec Gravity:1.2350

VOC Grams/Liter:3.49

Evaporation Rate & Reference:1.6000 (N-BU AC=1)

Solubility in Water:REACTS WITH WATER

Appearance and Odor:OPAQUE LIQUID, SOLVENT ODOR

Percent Volatiles by Volume:51.052

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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 CO<sub>2</sub> 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: CO<sub>2</sub>, 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