Material Safety Data Sheet

Issuing Date: 22-Dec-2011 **Revision Date:** 08-Oct-2013 **Version:** 4.3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 08605GUZ-B33

Product Name: GREEN 383, 34094 VOHAP FREE ZENTHANE, MIL-DTL-53039E, TYPE IX

Hentzen Coatings, Inc.
6937 West Mill Road, Milwaukee, WI 53218-1225

Company Phone Number: 1-414-353-4200
Emergency Telephone: ChemTrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Harmful by inhalation

Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates

May cause central nervous system depression

May be harmful if swallowed

Flammable liquid and vapor

Potential Health Effects

Principle Routes of Exposure	Inhalation, Skin Contact, Eye Contact
Acute Toxicity	
Eyes	Prolonged contact may result in chemical burns to the eyes. Blindness may occur.
Skin	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Severe skin irritant. Repeated or prolonged contact:. Causes severe irritation and or burns.
Inhalation	May cause allergic respiratory reaction. May be harmful if inhaled. May cause irritation of respiratory tract. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Exposure well above the exposure limits may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms could be immediate or delayed up to several hours after exposure and could include chest tightness, wheezing, cough or asthmatic attack. Anesthetic. Isocyanates may cause acute irritation and/or sensitization of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent.
Ingestion	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration may cause pulmonary edema and pneumonitis.
Chronic Toxicity	May cause adverse liver effects.
Aggravated Medical Conditions	Central nervous system. Gastrointestinal tract. Preexisting eye disorders. Liver disorders. Skin disorders. Respiratory disorders. Peripheral Nervous System (PNS).
Interactions with Other Chemicals	Use of alcoholic beverages may enhance toxic effects.
Environmental hazard	See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Contains a known or suspected carcinogen

This product contains substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990. See Section 15 for list of HAPS.

Hazardous Components

Chemical Name	CAS-No	Weight	ACGIH TLV	OSHA PEL
METHYL AMYL KETONE	110-43-0	30% - 40%	TWA: 50 ppm	TWA: 100 ppm TWA: 465 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 465 mg/m³
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE	28182-81-2	10% - 20%	-	-
COBALT CHROMITE GREEN PIGMENT	68187-49-5	5% - 10%	TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Cr (vacated) TWA: 0.5 mg/m³ Cr
CHROMIC OXIDE	1308-38-9	5% - 10%	TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Cr (vacated) TWA: 0.5 mg/m³ Cr
MAGNESIUM-FERRITE PIGMENT	12068-86-9	0% - 5%	TWA: 1 mg/m³ Fe	(vacated) TWA: 1 mg/m³ Fe
ORGANIC TIN COMPOUND	77-58-7	0% - 5%	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn (vacated) TWA: 0.1 mg/m³ Sn (vacated) S*

4. FIRST AID MEASURES

General advice — Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.

Eye Contact — Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact — Wash off immediately with soap and plenty of water. Consult a physician is necessary. For severe exposure, remove clothing and use safety shower. Seek medical attention.

Inhalation — Consult a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Asthmatic type symptoms can be immediate or deferred up to several hours.

Ingestion — Do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Flammable Properties — HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames Flammable Liquid

Flash Point — 40 °F / 4 °C

Flammability Limits in Air
Upper — 2.74 %
Lower — 0.38 %

Suitable Extinguishing Media	Dry Chemical.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	Yes.
Specific hazards arising from the chemical	Containers may explode when heated or if contaminated with water. Flammable.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

HMIS **Health Hazard** 1 * **Flammability** 3 **Physical Hazard** 1 **Personal protection** X
** Chronic Health Hazard*

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Evacuate personnel to safe areas. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment. Avoid breathing vapors or mists. Ventilate the area.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.
Methods for Containment	Decontaminate floor with decontamination solution letting stand for at least 15 minutes. Soak up with inert absorbent material.
Methods for Cleaning Up	Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material.
Other information	DECONTAMINATION SOLUTION: Concentrated ammonia (3 - 8%), detergent (2%) and water (90 - 95%), a solution of Union Carbide's Tergitol TMN-10 (20%) and water (80%) or a solution of 50% isopropanol, 45% water, and 5% concentrated ammonia solution(% by weight).

7. HANDLING AND STORAGE

Advice on Safe Handling	Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use bonding and grounding when transferring materials. Use non-sparking tools and equipment.
Technical Measures/Storage Conditions	Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat and sources of ignition. Protect the container from moisture. If moisture enters the container, do not reseal, pressure can build-up and cause container to burst.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
METHYL AMYL KETONE	TWA: 50 ppm	TWA: 100 ppm TWA: 465 mg/m³ (vacated) TWA: 100 ppm (vacated) TWA: 465 mg/m³

COBALT CHROMITE GREEN PIGMENT	TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Cr (vacated) TWA: 0.5 mg/m³ Cr
CHROMIC OXIDE	TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Cr (vacated) TWA: 0.5 mg/m³ Cr
MAGNESIUM-FERRITE PIGMENT	TWA: 1 mg/m³ Fe	(vacated) TWA: 1 mg/m³ Fe
ORGANIC TIN COMPOUND	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn (vacated) TWA: 0.1 mg/m³ Sn (vacated) S*

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures

Air sampling should be done to measure airborne concentrations of the monomer of Hexamethylene Diisocyanate (HDI), the HDI polyisocyanate and organic solvents. Good industrial hygiene practice dictates that when isocyanate-containing coatings are spray applied, some form of respiratory protection should be worn. During the spray application of these coatings, the use of a supplied-air respirator (either positive pressure or continuous flow type) is mandatory when one or more of the following conditions exist: . the airborne isocyanate concentrations are not known; or. the airborne isocyanate concentrations exceed ten times the exposure limits; or. no airborne solvent concentration exceeds its odor threshold;or. spraying is performed in a confined space.(See OSHA Confined Space Standard 29 CFR 1910.146.)A properly fitted air-purifying respirator (combination organic vapor and particulate), proven by test to be effective in isocyanate-containing spray paint environments. the airborne isocyanate concentrations are known to be below ten times the exposure limits;. at least one solvent in the coating has a published odor threshold; and. at least one airborne solvent concentration is lower than its TLV but higher than its odor threshold.The odor of the solvent will then alert the respirator wearer to any breakdown of the respirator filters. FOR NON-SPRAY OPERATIONS: the same precautions. a local exhaust hood should be used to remove fumes during the welding or cutting operation. a fresh air supplied respirator should be worn during welding or cutting. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

Personal Protective Equipment

Eye/Face Protection

Tightly fitting safety goggles.

Skin and Body Protection

Solvent-resistant gloves. Handle in accordance with good industrial hygiene and safety practice. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

Respiratory Protection

Maintain adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	Liquid	**Appearance**	Opaque
Odor	Solvent.	**Flash Point**	40 °F / 4 °C
Boiling Point	208 °F / 98 °C	**Specific Gravity**	1.12
Weight per Gallon (lbs/gal):	9.36		
Flammability Limits in Air			
Upper	2.74 %		
Lower	0.38 %		

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Incompatible Products Water, epoxy catalysts, alcohols, glycol ethers, bases, metal complexes and other active materials.

Conditions to Avoid None known based on information supplied.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO_2).

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Long-term repeated exposure to Xylene may result in hearing loss.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
METHYL AMYL KETONE	1670 mg/kg (Rat)	12600 µL/kg (Rabbit)	-
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE	-	-	18500 mg/m³ (Rat) 1 h
ORGANIC TIN COMPOUND	175 mg/kg (Rat)	-	-

Chronic Toxicity

Product Information Long-term repeated exposure to Xylene may result in hearing loss. May cause adverse liver effects.

Carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical Name	IARC	ACGIH	NTP	OSHA
COBALT CHROMITE GREEN PIGMENT	Group 2B Group 3	-	-	X
CHROMIC OXIDE	Group 3	-	-	-

Legend:

IARC: (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
OSHA: (Occupational Safety & Health Administration)
X - Present

Target Organ Effects Central nervous system (CNS), Eyes, Gastrointestinal tract (GI), Liver, Peripheral Nervous System (PNS), Respiratory system, Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
METHYL AMYL KETONE	-	126-137: 96 h Pimephales promelas mg/L LC50 flow-through	-	-
ORGANIC TIN COMPOUND	-	2: 48 h Oryzias latipes mg/L LC50	-	-

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

US EPA Waste Number U239 D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
COBALT CHROMITE GREEN PIGMENT	Toxic Corrosive Ignitable
CHROMIC OXIDE	Toxic Corrosive Ignitable
ORGANIC TIN COMPOUND	Toxic

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Description	UN1263, Paint, 3, II
Emergency Response Guide Number	128

TDG

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Description	UN1263, Paint, 3, II

MEX

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Description	UN1263, Paint, 3, II

ICAO

UN/ID No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	II
Description	UN1263, Paint, 3, II

ICAO/IATA

UN/ID No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	II
ERG Code	3L
Description	UN1263, Paint, 3, II

IMDG/IMO

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
EmS No.	F-E, S-E
Description	UN1263, Paint, 3, II

RID

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Classification Code	F1
Description	UN1263, Paint, 3, II

ADR/RID

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Classification Code	F1
Description	UN1263, Paint, 3, II, (D/E)
ADR/RID-Labels	3

ADN

Proper shipping name	Paint
Hazard class	3
UN/ID No	UN1263
Packing Group	II
Classification Code	F1
Special Provisions	163, 640C, 650
Description	UN1263, Paint, 3, II
Limited quantity	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight	SARA 313 - Threshold Values %
COBALT CHROMITE GREEN PIGMENT	68187-49-5	5% - 10%	1.0
CHROMIC OXIDE	1308-38-9	5% - 10%	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
COBALT CHROMITE GREEN PIGMENT	68187-49-5	9.8734	Present	-	-	-
CHROMIC OXIDE	1308-38-9	8.6384	Present	-	-	-

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
COBALT CHROMITE GREEN PIGMENT	-	X	-	-
CHROMIC OXIDE	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
METHYL AMYL KETONE	X	X	X	-	X
COBALT CHROMITE GREEN PIGMENT	-	X	X	X	X
CHROMIC OXIDE	X	X	X	X	X

International Regulations

Mexico - Grade Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits

METHYL AMYL KETONE	-	Mexico: TWA 50 ppm Mexico: TWA 235 mg/m³ Mexico: STEL 100 ppm Mexico: STEL 465 mg/m³
COBALT CHROMITE GREEN PIGMENT	-	Mexico: TWA 0.5 mg/m³
CHROMIC OXIDE	-	Mexico: TWA 0.5 mg/m³
MAGNESIUM-FERRITE PIGMENT	-	Mexico: TWA 1 mg/m³ Mexico: STEL 2 mg/m³
ORGANIC TIN COMPOUND	-	Mexico: TWA 0.1 mg/m³ Mexico: STEL 0.2 mg/m³

16. OTHER INFORMATION

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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