SAFETY DATA SHEET

Issuing Date: 22-Dec-2011 **Revision Date:** 21-Oct-2016 **Revision Number:** 1.1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Code: 04098YUZ-ULVOC

Product Name: 33538 YELLOW VHF 1.0 VOC ZENTHANE, MIL-DTL-53039E, TYPE IV

Hentzen Coatings, Inc.
6937 West Mill Road, Milwaukee, WI 53218-1225
Company Phone Number: 1-414-353-4200
Emergency telephone number ChemTrec 1-800-424-9300
Recommended use of the chemical and restrictions on use Industrial paint (Paint or Paint-Related), Restricted to professional users

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Carcinogenicity	Category 2
Flammable Liquids	Category 3

Label Elements

Emergency Overview

WARNING

Hazard Statements
Causes skin irritation
Suspected of causing cancer
Flammable liquid and vapor

Appearance Opaque **Physical state** Liquid **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/Bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool
Store in accordance with local regulations

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other information
• May be harmful if swallowed
• May be harmful in contact with skin
• Toxic to aquatic life

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.

Chemical Name	CAS No	Weight-%	ACGIH	OSHA
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL)	98-56-6	30% - 40%	TWA: 2.5 mg/m³ F	TWA: 2.5 mg/m³ F
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE	28182-81-2	10% - 20%	N/A	N/A
AROMATIC HYDROCARBON	64742-94-5	5% - 10%	N/A	N/A
BARIUM SULFATE	7727-43-7	5% - 10%	TWA: 5 mg/m³ inhalable particulate matter, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	68186-90-3	1% - 5%	TWA: 0.5 mg/m³ Sb TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Sb TWA: 0.5 mg/m³ Cr
TITANIUM DIOXIDE	13463-67-7	0% - 1%	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust
HEXAMETHYLENE DIISOCYANATE MONOMER	822-06-0	0% - 1%	TWA: 0.005 ppm	N/A

4. FIRST AID MEASURES

First Aid Measures

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

Eye Contact Immediately flush eyes with water for at least 15 minutes. Get medical attention. If easy to do, remove contact lenses. 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 if necessary. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Inhalation Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Consult a physician if necessary. If breathing is irregular or stopped, administer artificial respiration.

Asthma-like and/ or skin allergy-like symptoms.

Ingestion Do NOT induce vomiting.

Self-protection of the first aider Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific hazards arising from the chemical
Flammable. Containers may explode when heated or if contaminated with water.

Explosion Data
Sensitivity to Mechanical Impact no data available.
Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters
Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Evacuate personnel to safe areas. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment as required. Avoid breathing vapors or mists. Ventilate the area.

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).

Environmental Precautions

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. Vapors are heavier than air, spread along floors and form explosive mixtures with air.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal. 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.

7. HANDLING AND STORAGE

Precautions for safe handling

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 explosion-proof electrical (ventilation and lighting) equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. Use only non-sparking tools.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks and flame. Protect from moisture.

Incompatible Products Water. Glycol ethers. Alcohols. Epoxies. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH	OSHA	NIOSH IDLH
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL) 98-56-6	TWA: 2.5 mg/m³ F	TWA: 2.5 mg/m³ F	
BARIUM SULFATE 7727-43-7	TWA: 5 mg/m³ inhalable particulate matter, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT 68186-90-3	TWA: 0.5 mg/m³ Sb TWA: 0.5 mg/m³ Cr	TWA: 0.5 mg/m³ Sb TWA: 0.5 mg/m³ Cr	IDLH: 50 mg/m³ Sb IDLH: 25 mg/m³ Cr(III) TWA: 0.5 mg/m³ Sb TWA: 0.5 mg/m³ Cr
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust	IDLH: 5000 mg/m³
ORGANIC TIN COMPOUND 77-58-7	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn	IDLH: 25 mg/m³ Sn TWA: 0.1 mg/m³ except Cyhexatin Sn
HEXAMETHYLENE DIISOCYANATE MONOMER 822-06-0	TWA: 0.005 ppm	N/A	Ceiling: 0.020 ppm 10 min Ceiling: 0.140 mg/m³ 10 min TWA: 0.005 ppm TWA: 0.035 mg/m³

NIOSH IDLH: Immediately Dangerous to Life or Health

Exposure controls

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

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use personal protective equipment as required.

Skin and Body Protection Chemical resistant apron.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	**Appearance**	Opaque
Odor	Solvent.	**Odor Threshold**	No data available
pH	No data available	**Flash Point**	100 °F / 38 °C
Decomposition temperature	No data available	**Boiling Point**	183 °F / 84 °C
Melting Point / Melting Range	No data available	**Freezing Point**	No data available
Vapor Pressure @20°C (kPa)	No data available	**Partition coefficient:**	No data available
Vapor Density	No data available	**Density**	No data available
Bulk density	No data available	**Specific Gravity**	1.21
Evaporation Rate	No data available	**Water solubility**	No data available
Dynamic viscosity	No data available	**Weight per Gallon (lbs/gal):**	10.11
		Flammability Limits in Air	
		Upper	3.87 %
		Lower	0.34 %

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.
Conditions to Avoid
Heat, flames and sparks.
Incompatible Materials
Water. Glycol ethers. Alcohols. Epoxies. Bases.
Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information The product has not been tested

Inhalation There is no data for this product.

Eye Contact There is no data for this product.

Skin Contact There is no data for this product.

Ingestion There is no data for this product.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL) 98-56-6	= 13 g/kg (Rat)	> 2 mL/kg (Rabbit)	= 33 mg/L (Rat) 4 h
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE 28182-81-2	N/A	N/A	= 18500 mg/m³ (Rat) 1 h
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT 68186-90-3	> 10000 mg/kg (Rat)	N/A	N/A
TITANIUM DIOXIDE	> 10000 mg/kg (Rat)	N/A	N/A

13463-67-7			
ORGANIC TIN COMPOUND 77-58-7	= 45 mg/kg (Rat)	= 630 mg/kg (Rabbit)	N/A
HEXAMETHYLENE DIISOCYANATE MONOMER 822-06-0	= 710 µL/kg (Rat)	= 593 mg/kg (Rabbit)	= 0.06 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
MUTAGENIC EFFECTS No information available.
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	ACGIH	IARC	NTP	OSHA
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT 68186-90-3	N/A	Group 3	N/A	N/A
TITANIUM DIOXIDE 13463-67-7	N/A	Group 2B	N/A	X

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 and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.
Specific target organ systemic toxicity (single exposure) No information available.
Specific target organ systemic toxicity (repeated exposure) No information available.
Chronic Toxicity Prolonged or repeated exposure increases the risk.
Target Organ Effects Central Vascular System (CVS), Eyes, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 2683 mg/kg
ATEmix (dermal) 2603 mg/kg
ATEmix (inhalation-dust/mist) 10.7 mg/l
Oral LD50 5308 mg/kg (rat) Estimated
Dermal LD50 4699 mg/kg (rat) Estimated
Inhalation LC50 49272 mg/l (mist) (dust) mg/m³ Estimated
Inhalation LC50

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to daphnia and other aquatic invertebrates
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL) 98-56-6	N/A	N/A	3.68: 48 h Daphnia magna mg/L EC50
HEXAMETHYLENE DIISOCYANATE MONOMER 822-06-0	N/A	26.1: 96 h Brachydanio rerio mg/L LC50 static	N/A

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL) 98-56-6	3.7
AROMATIC HYDROCARBON 64742-94-5	6.1

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

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

US EPA Waste Number 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
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT 68186-90-3	Toxic Corrosive Ignitable
ORGANIC TIN COMPOUND 77-58-7	Toxic

14. TRANSPORT INFORMATION

DOT

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Special Provisions	B1, B52, IB3, T2, TP1, TP29
Description	UN1263, Paint, 3, III
Emergency Response Guide Number	128

TDG

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Description	UN1263, Paint, 3, III

MEX

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Description	UN1263, Paint, 3, III

ICAO

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Special Provisions	A3, A72
Description	UN1263, Paint, 3, III

IATA

UN-No	UN1263
Hazard class	3
Packing Group	III
ERG Code	3L
Special Provisions	A3, A72, A192

IMDG/IMO

UN-No	UN1263
Hazard class	3
Packing Group	III
EmS-No	F-E, S-E
Special Provisions	163, 223, 367 955

RID

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Classification Code	F1
Description	UN1263, Paint, 3, III

ADR/RID

UN-No	UN1263
Proper shipping name	Paint
Hazard class	3
Packing Group	III
Classification Code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640E, 650, 367
Description	UN1263, Paint, 3, III, (D/E)
ADR/RID-Labels	3

ADN

Proper shipping name	Paint
Hazard class	3
Packing Group	III
Classification Code	F1
Special Provisions	163, 640E, 650
Description	UN1263, Paint, 3, III
Hazard Labels	3
Limited Quantity (LQ)	5 L
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies

AICS Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US 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	SARA 313 - Threshold Values %
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	68186-90-3	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

CAA (Clean Air Act)

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants This product contains the following HAPs:

Chemical Name	CAS No	Hazardous air pollutants (HAPs) content
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	68186-90-3	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
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	N/A	X	N/A	N/A

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

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ (reportable quantity)
HEXAMETHYLENE DIISOCYANATE MONOMER	100 lb	N/A	RQ 100 lb final RQ RQ 45.4 kg final RQ

State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	CAS No	California Proposition 65

TITANIUM DIOXIDE	13463-67-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL)	N/A	X	N/A	N/A	X
BARIUM SULFATE	X	X	X	N/A	X
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	N/A	X	X	X	X

International Regulations

Mexico - Grade Moderate risk, Grade 2

Chemical Name	Carcinogenic Status	Exposure Limits
BENZENE,1-CHLORO-4 (TRIFLUOROMETHYL)	N/A	Mexico: TWA 2.5 mg/m³
CHROME,NICKEL,ANTIMONY TITANIUM DIOXIDE PIGMENT	N/A	Mexico: TWA 0.5 mg/m³
TITANIUM DIOXIDE	N/A	Mexico: TWA 10 mg/m³ Mexico: STEL 20 mg/m³
ORGANIC TIN COMPOUND	N/A	Mexico: TWA 0.1 mg/m³ Mexico: STEL 0.2 mg/m³

16. OTHER INFORMATION

NFPA **Health Hazard** 0 **Flammability** 2 **Instability** 0 **Physical and Chemical Hazards** -

NFPA Rating

HMIS **Health Hazard** 2 * **Flammability** 2 **Physical Hazard** 1 **Personal protection** X

Chronic Hazard Star Legend ** Chronic Health Hazard*

Issuing Date: 22-Dec-2011
Revision Date: 21-Oct-2016
Revision Note
No information available

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. 04098YUZ-ULVOC

end