

Product Code: 08609TUZ-ULVOC

Product Name: TAN 686A, 33446 VHF 1.0 VOC ZENTHANE, MIL-DTL-53039C, TYPE IV

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

Chemtrec 24-hour Emergency Phone: 800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

(See top of page)

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product contains pigments which may become a dust nuisance when removed by abrasive blasting, sanding, or grinding.

This product contains one or more reported carcinogens or suspected carcinogens which are noted below and in Section 11.

Component/Exposure Limits	CAS#	% by Wt.
BENZENE, 1-CHLORO-4 (TRIFLUOROMETHYL) ACGIH TLV/TWA - Not Established OSHA PEL - Not Established OTHER LIMITS; CEL: 25 PPM 8 Hours TWA	098-56-6	38.38
TITANIUM DIOXIDE ACGIH TLV/TWA - 10 MG/M3 OSHA PEL - 15 MG/M3 (TOTAL DUST) TWA OTHER INFORMATION: IARC has listed TiO2 as a Group 2B, possibly carcinogenic to humans.	13463-67-7	10-20%
HOMOPOLYMER OF HEXAMETHYLENE DIISOCYANATE ACGIH TLV/TWA - Not Established OSHA PEL - Not Established OTHER LIMITS: MRF'S TWA=0.5 MG/M3, STEL= 1.0 MG/M3	28182-81-2	14.06
AROMATIC HYDROCARBON ACGIH TLV/TWA: NOT ESTABLISHED OSHA PEL: NOT ESTABLISHED OTHER LIMITS: MANUFACTURE'S LIMITS: 100MG/M3, 17PPM (TOTAL HYDROCARBON)	64742-94-5	4.86
IRON (III) OXIDE ACGIH TLV/TWA - 5 MG/M3 (Fume) OSHA PEL - 10 MG/M3 (Fume)	51274-00-1	0-10%
YELLOW IRON OXIDE PIGMENT ACGIH TLV/TWA - 5 MG/M3 OSHA PEL - 10 PPM OTHER INFORMATION: Exposure limits are for Iron Oxide fume.	51274-00-1	0-10%
POLYESTER RESIN ACGIH TLV/TWA - Not Established OSHA PEL - Not established	N/A	0-10%
* CHROMIC OXIDE ACGIH TLV/TWA - 0.5 MG/M3 as CrIII	1308-38-9	1.38

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OSHA PEL - 0.5 MG/M3 as CrIII

OTHER INFORMATION: 68% of chromic oxide is Trivalent Chrome
the balance is oxide.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Harmful if inhaled. May cause the following effects:

Nose, throat and respiratory tract irritation. Allergic respiratory reaction.
May cause lung damage. Eye and skin irritation. Allergic skin reaction.

FLAMMABLE LIQUID

Keep away from heat, sparks, and flame.

Vapors may cause flash fire.

Toxic gases/fumes are given off during burning or thermal decomposition.

EYE CONTACT:

Severe irritant. Prolonged contact may result in chemical
burns to the eyes. Blindness may occur.

SKIN CONTACT:

Severe irritant. Contact with skin causes severe irritation
and pain. Prolonged contact may result in chemical burns.
Product may be absorbed through the skin in harmful amounts.

PRIMARY ROUTES OF ENTRY:

Skin absorption.

Dermal and inhalation.

INGESTION:

Can result in irritation and possible corrosive action in
the mouth, stomach tissue and digestive tract. Symptoms can
include sore throat, abdominal pain, nausea, vomiting and
diarrhea. Vomiting may cause aspiration of the solvent
resulting in chemical pneumonitis.

INHALATION:

Acute inhalation of the vapors or mist of isocyanate
compounds above the recommended exposure limits can irritate
(burning sensation) the mucous membranes in the respiratory
tract (nose, throat, lungs) causing a runny nose, sore
throat, coughing, chest discomfort, shortness of breath and
reduced lung function (breathing obstruction). Persons with
pre-existing, nonspecific bronchial hyperreactivity can
respond to concentrations below the exposure limits with

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similar symptoms as well as an asthma attack. Exposure well above the exposure limits may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (fever, chills) has also been reported. Overexposure to solvent vapors may cause dryness of the throat, tightness of the chest, headache, nausea, fatigue and loss of appetite. Anesthetic. Can cause irritation of the respiratory tract or acute nervous system depression characterized by the following progressive steps if severe overexposure is continued: headache, dizziness, staggering gait, confusion or unconsciousness.

CHRONIC INFORMATION:

See Section 11.

CARCINOGENICITY:

See Section 11.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:

Asthma and other respiratory ailments; skin allergies and eczema; chemical sensitization.

4. FIRST AID MEASURES

EYE CONTACT:

Flush immediately with low pressure lukewarm running water for at least 15 minutes while lifting eyelids. Take to a physician for treatment.

SKIN CONTACT:

Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists.

INGESTION:

Do not induce vomiting.

INHALATION:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may

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develop and may be immediate or delayed up to several hours.
Treatment is essentially symptomatic. Consult physician.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION PROPERTIES:

FLASH POINT (deg.F):

109

METHOD:

Tag Closed Cup

FLAMMABLE LIMITS % :

Lower limit: 0.9

Upper limit: 10.5

AUTOIGNITION TEMPERATURE:

N/A

EXTINGUISHING MEDIA:

Carbon Dioxide, Dry Chemical or Foam.

FIREFIGHTING PROCEDURES AND EQUIPMENT:

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flames. Closed container may explode when exposed to extreme heat or burst when contaminated with water (Carbon Dioxide released).

Do not apply to hot surfaces. Never use welding or cutting torch on or near product container (even empty) because product (even residue) can ignite explosively. Full protective equipment including self-contained breathing apparatus should be worn.

During a fire, irritating and highly toxic gases (See Section 10, Incompatibilities data) and smoke are present from the decomposition/combustion products.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED :

Evacuate all non-essential personnel and remove all sources of ignition (flames, hot surfaces, electrical, static and frictional sparks). Ventilate area. Equip clean-up crew with appropriate protective equipment. Avoid breathing vapors. Avoid skin contact. Prevent entry into drains, sewers and waterways. Notify appropriate authorities if necessary. Cover spill with inert absorbent. Pour liquid decontaminant over spillage. Allow to react for at least 10 minutes. Collect material in open containers and add further amounts

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of decontamination solution. Remove containers to safe place and cover loosely. Allow to stand for 24 to 48 hours. Wash down spill area with decontamination solution. Do not allow entry into drains, sewers or waterways.

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

HANDLING:

Precautions must be taken so that persons handling this product do not breathe the vapors or have it contact the eyes or skin. In spray operations, protection must be afforded against exposure to both vapor and spray mist. Use grounding and bonding connection when transferring material to prevent static discharge, fire or explosion. Avoid free fall of liquid in excess of a few inches. Use sparkproof tools and explosion proof equipment. Can cause irritation to eyes, skin, nose and throat. Avoid contact with eyes and clothing. Wash thoroughly after handling. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

STORAGE:

Keep containers tightly closed and protect from moisture contamination. If moisture enters container, pressure can build up due to a reaction that produces Carbon Dioxide which can cause the sealed container to pressurize and burst. Do not reseal container if contamination is suspected. Emptied containers may retain hazardous residue. Follow all hazard precautions in this data sheet until container is thoroughly cleaned or destroyed. To avoid spontaneous combustion during temporary storage, soak soiled rags and waste immediately after use in a water-filled, closed container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Exhaust ventilation sufficient to keep the airborne concentrations of the isocyanates below their respective exposure limits must be utilized. Exhaust air may need to be

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cleaned by scrubber or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (that is, they are released into the work area), it is possible to be exposed to airborne monomeric Hexamethylene Diisocyanate.

RESPIRATORY PROTECTION:

The Surgeon General requires airline respirators to be used unless air sampling shows exposure to be below OSHA limits. Then, either air-purifying chemical cartridge respirators or airline respirators are required. The same precautions should be used during mixing or any operations where paint fumes would be present. 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, and used in accordance with all recommendations made by the manufacturer, can be used when:

- 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 apply during non-spray operations such as brush or roller application of the coating if done at elevated temperatures (such as heating of the coating for application). During sanding or grinding operations, use a NIOSH approved particulate respirator to remove solid airborne particles of sanding dust. When welding or cutting steel coated with this product, the

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worker may be exposed to decomposition products (metal fumes, gases or vapors, and/or particulate) which vary depending on the type of process being used to weld or cut and the nature of the base metal. One or more of the following control procedures should be used when a person is welding or cutting coated steel: - A power brush, grinding wheel or chemical stripper should be used to remove the coating from the steel in the area to be cut or welded. Respiratory and eye protection should be used while stripping the paint.

- 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

EYE PROTECTION:

Use safety eyewear with splash guards or side shields. A full face shield may be appropriate. Contact lenses should not be worn.

SKIN PROTECTION:

Permeation resistant gloves. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area protected only by the cream to a minimum.

OTHER PROTECTIVE EQUIPMENT AND GUIDLINES:

Safety showers and eye wash stations should be available. Educate and train employees in the safe use of this product.

MEDICAL SURVEILLANCE:

Medical supervision of all employees who handle or come in contact with this product is recommended. This should include pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthma-type conditions, bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:

Liquid.

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APPEARANCE:

Opaque.

ODOR:

Solvent odor.

VOC (LB/GL):

0.94 lb/gl

VOC (grams/liter):

112 g/l

WEIGHT PER GALLON:

11.203 lb/gl

SPECIFIC GRAVITY:

1.3454

%EXEMPT SOLVENT by WEIGHT:

38.375

%EXEMPT SOLVENT by VOLUME:

38.359

BOILING POINT (deg. F):

282

WATER SOLUBILITY:

Negligible.

FREEZING POINT (deg. F):

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

May produce hazardous fumes when heated to decomposition as in welding. Fumes may contain the following:

Carbon Monoxide, Carbon Dioxide, and possible Cyanide, Hexamethylene Diisocyanate.

Decomposition of Benzene, 1-chloro-4(trifluoromethyl) can produce chlorine and fluorine gases.

INCOMPATIBILITIES (MATERIALS TO AVOID):

Contamination with water, epoxy catalysts, alcohols, glycol ethers, bases, metal complexes or other active materials.

Once the material has been exposed to any of the above or atmospheric moisture, do not reseal container as hazardous Carbon Dioxide gas could build up in the container resulting in rapid depressurization.

11. TOXICOLOGICAL INFORMATION

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ACUTE EFFECTS:

Titanium Dioxide:

Oral ALD Rat = >24,000 mg/kg

Dermal ALD Rabbit = >10,000 mg/m³

Inhalation 4-hour ALC Rat = >6.82 mg/l

Has not been tested as a whole for acute effects.

CHRONIC EFFECTS:

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. There are reports that once sensitized, an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent.

Some reports have associated repeated and prolonged contact with Trivalent Chrome to dermatitis. As noted by the American Conference of Governmental Industrial Hygienists (ACGIH) in their publication "Documentation of the Threshold Limit Values", repeated and prolonged exposures to Trivalent Chrome compounds may cause delayed effects involving the respiratory system.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage, liver and kidney damage. Long term overexposure effects are not currently known.

Has not been tested as a whole for chronic effects.

CARCINOGENICITY:

NTP, IARC and ACGIH found that "there is sufficient evidence for the carcinogenicity of Chromium and certain Chromium compounds both in humans and in experimental animals". The Chromium compounds that are considered carcinogenic are hexavalent Chromium compounds. This product contains a trivalent Chromium compound. It is not specifically listed as a carcinogen by NTP, IARC or ACGIH.

IARC has listed titanium dioxide as Group 2B, possible human

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carcinogen. The listing is based on the opinion by IARC that there is inadequate evidence of carcinogenicity to humans, but there is sufficient evidence of cancer in experimental animals.

Has not been tested as a whole for carcinogenicity effects.

MUTAGENICITY:

Has not been tested as a whole for mutagenicity effects.

REPRODUCTIVE EFFECTS:

Has not been tested as a whole for reproductive effects.

DEVELOPMENTAL EFFECTS:

Has not been tested as a whole for developmental effects.

12. ECOLOGICAL INFORMATION

ECOLOGICAL EFFECTS:

Has not been tested as a whole for ecological effects.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Recycle, fuel blend or incinerate.
Dispose of in accordance with applicable laws and regulations. It is the responsibility of the owner of the waste to dispose of it properly. Laboratory analysis is recommended to profile the waste for proper disposal determination.

Any containers or equipment used should be decontaminated with the solution given in Section 6.

U.S E.P.A WASTE NUMBER AND DESCRIPTION:

D001 Waste Paint

HAZARDOUS WASTE CHARACTERISTICS:

Ignitable.

14. TRANSPORT INFORMATION

UN NUMBER:

UN 1263

DOT PROPER SHIPPING NAME:

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Paint

DOT HAZARD CLASS:

3

DOT LABEL:

Flammable Liquid

DOT PACKAGING GROUP:

PG III

U.S. POSTAL SERVICE:

Will not handle.

15. REGULATORY INFORMATION

(Not meant to be all inclusive - selected regulations represented)

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

CAS#1308-38-9 Chrome Oxide

Contains 68% Trivalent Chrome, the balance is oxide.

TSCA STATUS:

All ingredients are listed on the TSCA inventory.

STATE REGULATIONS:

This product may contain chemicals that fall under individual state Right-to-Know regulatory requirements. See Section 2 for material listings. For details on regulatory requirements, contact the appropriate agency in your state.

16. OTHER INFORMATION

Date of issue: 5/21/2009

Last Revision Date: 05/13/09

HMIS Information

HEALTH: 2

FLAMMABILITY: 2

REACTIVITY: 1

PERSONAL PROTECTIVE EQUIPMENT: X

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