SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : U-Coat 301 Insulating Coating

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Ceramic insulating coating for structures, pipes, tanks, etc.

1.3. Details of the supplier of the safety data sheet

Manufacturer:
Orange Technologies, Inc
10018 Spanish Isles Blvd Suite 43
Boca Raton, Florida
USA 33498
+1 (561) 757-5620

1.4. Emergency telephone number

Emergency number : +1 (561) 757-5620

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification: This product contains greater than 0.1% by weight titanium dioxide. Titanium dioxide inhalation studies in rats indicate that there is enough evidence that inhalation of excessive amounts of titanium dioxide is carcinogenic in the lungs of experimental animals. Titanium dioxide is classified as “Group 2B (possibly carcinogenic to humans)” by IARC.

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Titanium dioxide	(CAS No) 13463-67-7	< 1,078	Carc. 2, H351

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Take person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical attention.

First-aid measures after skin contact : Wash skin with plenty of water. Seek medical attention if irritation develops.

First-aid measures after eye contact : Rinse eyes with water as a precaution. Obtain medical attention if irritation persists.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause slight irritation to the skin.

Symptoms/injuries after eye contact : Contact may cause eye irritation.

Symptoms/injuries after ingestion : Ingestion of large amounts may produce some discomfort and gastrointestinal disturbances including a laxative action.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Hazardous combustion products. carbon oxides (CO and CO2). Nitrogen oxides (NOx).

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : If spilled, may cause the floor to be slippery.

6.1.1. For non-emergency personnel

Protective equipment : Use personal protective equipment as required.

Emergency procedures : Keep upwind of the spilled material and isolate exposure. Evacuate unnecessary personnel. Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection. For disposal of residues refer to section 13: Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Store in tightly closed, leak-proof containers. Keep cool. Keep out of direct sunlight. Avoid Freezing. Avoid high temperatures.

Incompatible materials : Strong oxidizers. Strong acids.

Maximum storage period : 1 year If stored indoors with no direct sunlight or wide temperature swings, storage period may be extended to 5 years

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Titanium dioxide (13463-67-7)		
ACGIH	ACGIH TWA (mg/m³)	1 mg/m³
ACGIH	Remark (ACGIH)	LRT irr; A3
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Wear protective gloves. Safety glasses. Wear suitable protective clothing.

Hand protection : Protective gloves.

Eye protection : Safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear suitable respiratory equipment.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Viscous liquid.

Color : Mixture contains one or more component(s) which have the following color(s): Colorless clear white, light yellow, yellow, beige, red, light brown, green, blue.

Odor : ammonia-like

Odor threshold : No data available

pH : 8,45 -9,5

Melting point : No data available

Freezing point : No data available

Boiling point : 212 °F

Flash point : Non combustible

Relative evaporation rate (butyl acetate=1) : < 1

Flammability (solid, gas) : No data available

Explosive limits : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Vapor pressure : 20 @ 25°C

Relative density : No data available

Relative vapor density at 20 °C : <1

Density	:	0,622
Solubility	:	Water: Soluble
Log Pow	:	No data available
Log Kow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	3500 – 7000
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

9.2. Other information

VOC content : 0,0099 Total Volatile Matter: 45.26%

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions. Hazardous polymerization will not occur.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Excessive heat.

10.5. Incompatible materials

Metallic salts. hydrofluoric acid. Strong oxidizers.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On incomplete combustion releases: ….Carbon oxides (CO, CO2). hydrocarbons. May react with hydrofluoric acid to form a toxic gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact; oral; Inhalation

Acute toxicity : Not classified

(Based on available data, the classification criteria are not met)

U-Coat 301 Insulating Coating	
LD50 oral rat	> 2000 ml/kg
Titanium dioxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg

Skin corrosion/irritation : Not classified

(Based on available data, the classification criteria are not met)

pH: 8,45 - 9,5

Serious eye damage/irritation : Not classified

(Based on available data, the classification criteria are not met)

pH: 8,45 - 9,5

Respiratory or skin sensitization : Not classified

(Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified
(Based on available data, the classification criteria are not met. Titanium dioxide is in a form that is not available for respiration.)

Titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met)

Specific target organ toxicity (single exposure) : Not classified
(Based on available data, the classification criteria are not met)

Specific target organ toxicity (repeated exposure) : Not classified
(Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause slight irritation to the skin.

Symptoms/injuries after eye contact : Contact may cause eye irritation.

Symptoms/injuries after ingestion : Ingestion of large amounts may produce some discomfort and gastrointestinal disturbances including a laxative action.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Non hazardous waste. Dispose of contents/container in accordance with licensed collector's sorting instructions. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Titanium dioxide (13463-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Titanium dioxide (13463-67-7)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

Titanium dioxide (13463-67-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

National regulations

Titanium dioxide (13463-67-7)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

Titanium dioxide (13463-67-7)				
U.S. – California – Proposition 65 – Carcinogens List	**U.S. – California – Proposition 65 – Developmental Toxicity**	**U.S. – California – Proposition 65 – Developmental Toxicity – Female**	**U.S. – California – Proposition 65 – Reproductive Toxicity – Male**	**No significance risk level (NSRL)**
Yes	**No**	**No**	**No**	

SECTION 16: Other information

Suitable respiratory equipment is required to prevent any inhalation of dry/cured U-Coat if the coating is being removed or disposed.

Abbreviations and acronyms: IARC (International Agency for Research on Cancer). ACGIH (American Conference of Government Industrial Hygienists). OSHA - Occupational Safety and Health Administration. LRT (lower respiratory tract). irr (irritation). ACGIH A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans).

Full text of H-statements:

Carc. 2	Carcinogenicity, Category 2
H351	Suspected of causing cancer

SDS US (GHS HazCom 2012)