

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Revision Date: 03/21/2023 Date of Issue: 09/04/2014

### SECTION 1: Identification

#### 1.1. Product Identifier

Product Form Mixture  
Product Name MED-4102-1  
Synonyms Color Masterbatch

#### 1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Use of the Substance/Mixture For professional use only

#### 1.3. Details of the Supplier of the Safety Data Sheet

NuSil Technology LLC  
1050 Cindy Lane  
Carpinteria, California 93013  
USA  
(805) 684-8780

[productstewardship@avantorsciencesgcc.com](mailto:productstewardship@avantorsciencesgcc.com)

[www.nusil.com](http://www.nusil.com)

#### 1.4. Emergency Telephone Number

Emergency Number 800-424-9300 CHEMTREC (in US)  
+1 703-527-3887 CHEMTREC (International and Maritime)

### SECTION 2: Hazards Identification

#### 2.1. Classification of the Substance or Mixture

##### GHS-US Classification

Reproductive toxicity Category 2 H361  
Hazardous to the aquatic environment - Chronic Hazard Category 2 H411

#### 2.2. Label Elements

##### GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS08

GHS09

Signal Word (GHS-US)

Warning

Hazard Statements (GHS-US)

H361 - Suspected of damaging fertility or the unborn child  
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements (GHS-US)

P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P273 - Avoid release to the environment.  
P280 - Wear gloves, protective clothing, eye protection.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P391 - Collect spillage.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 2.3. Other Hazards

Other Hazards Not Contributing to the Classification Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

### 2.4. Unknown Acute Toxicity (GHS-US)

No additional information available

## SECTION 3: Composition/Information On Ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product Identifier	%	GHS-US Classification
Titanium dioxide	(CAS-No.) 13463-67-7	50 – 75	Not classified
Octamethylcyclotetrasiloxane	(CAS-No.) 556-67-2	< 3	Flam. Liq. 3, H226 Repr. 2, H361 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret [29 CFR 1910.1200].

## SECTION 4: First Aid Measures

### 4.1. Description of First-aid Measures

First-aid Measures General	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation	When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures After Skin Contact	Remove contaminated clothing. Drench affected area with water for at least 5 minutes. If exposed or concerned: Get medical advice/attention.
First-aid Measures After Eye Contact	Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.
First-aid Measures After Ingestion	Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries	Suspected of damaging fertility or the unborn child.
Symptoms/Injuries After Inhalation	Prolonged exposure may cause irritation. Titanium dioxide is bound in the liquid matrix of the product, and not expected to be available for exposure under normal conditions of use or foreseeable emergencies. If dried and respirable dust is created: repeated or prolonged exposure to titanium dioxide dust via inhalation is suspected of causing cancer of the respiratory tract.
Symptoms/Injuries After Skin Contact	Prolonged exposure may cause skin irritation.

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/Injuries After Eye Contact	May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion	Ingestion may cause adverse effects.
Chronic Symptoms	Suspected of damaging fertility or the unborn child.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

Suitable Extinguishing Media : Water spray, fog, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media : Do not use a heavy water stream. Use of heavy stream of water may spread fire. Application of water stream to hot product may cause frothing and increase fire intensity.

### 5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard Not considered flammable but may burn at high temperatures.

Explosion Hazard Product is not explosive.

Reactivity Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

Precautionary Measures Fire Exercise caution when fighting any chemical fire.

Firefighting Instructions Use water spray or fog for cooling exposed containers.

Protection During Firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products Carbon oxides (CO, CO<sub>2</sub>). Formaldehyde. Oxides of titanium. Silicon oxides.

Other Information Do not allow run-off from fire fighting to enter drains or water courses.

## SECTION 6: Accidental Release Measures

### 6.1. Personal Precautions, Protective Equipment And Emergency Procedures

General Measures Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

#### 6.1.1. For Non-Emergency Personnel

Protective Equipment Use appropriate personal protective equipment (PPE).

Emergency Procedures Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective Equipment Equip cleanup crew with proper protection.

Emergency Procedures Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 6.3. Methods and Materials 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

Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: Handling And Storage

### 7.1. Precautions for Safe Handling

Additional Hazards When Processed

Will decompose above 150 °C (> 300 °F) releasing formaldehyde vapors.

Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do NOT breathe vapor, mist, or spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety procedures.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures

Comply with applicable regulations.

Storage Conditions

Keep container closed when not in use. Keep/Store away from extremely high or low temperatures, ignition sources, direct sunlight, incompatible materials. Store in a dry, cool place. Store locked up/in a secure area.

Incompatible Materials

Strong acids, strong bases, strong oxidizers.

### 7.3. Specific End Use(s)

For professional use only

## SECTION 8: Exposure Controls/Personal Protection

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), or OSHA (PEL).

Titanium dioxide (13463-67-7)		
USA ACGIH	ACGIH OEL TWA	10 mg/m <sup>3</sup>
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL TWA	2.4 mg/m <sup>3</sup> (CIB 63-fine) 0.3 mg/m <sup>3</sup> (CIB 63-ultrafine, including engineered nanoscale)
USA OSHA	OSHA PEL TWA	15 mg/m <sup>3</sup> (total dust)

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 8.2. Exposure Controls

Appropriate Engineering Controls

Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Suitable eye/body wash equipment should be available in the vicinity of any potential exposure.

Personal Protective Equipment

Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials For Protective Clothing

Chemically resistant materials and fabrics.

Hand Protection

Wear protective gloves.

Eye And Face Protection

Chemical safety goggles.

Skin And Body Protection

Wear suitable protective clothing.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Environmental Exposure Controls

Do not allow the product to be released into the environment.

Other Information

When using, do not eat, drink or smoke.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	Liquid
Appearance	White paste
Odor	Odorless
Odor Threshold	No data available
pH	No data available
Evaporation Rate	No data available
Melting Point	No data available
Freezing Point	No data available
Boiling Point	No data available
Flash Point	> 135 °C (275 °F)
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor Pressure	No data available
Relative Vapor Density at 20°C	No data available
Relative Density	No data available
Specific Gravity	> 1
Solubility	No data available
Partition Coefficient n-Octanol/Water	No data available
Viscosity	No data available

### 9.2. Other Information

VOC Content < 1 %

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

#### 10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

#### 10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

#### 10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers.

#### 10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO<sub>2</sub>). Oxides of titanium. Silicon oxides. Will decompose above 150 °C (>300° F) releasing formaldehyde vapors. Formaldehyde is a potential carcinogen and can act as a potential skin and respiratory sensitizer. Formaldehyde can also cause respiratory and eye irritation.

### SECTION 11: Toxicological Information

#### 11.1. Information on Toxicological Effects

Acute Toxicity (Oral) Not classified

Acute Toxicity (Dermal) Not classified

Acute Toxicity (Inhalation) Not classified

MED-4102-1	
Titanium dioxide (13463-67-7)	
LD50 Oral Rat	> 10000 mg/kg
LC50 Inhalation Rat	5.09 mg/l/4h
Octamethylcyclotetrasiloxane (556-67-2)	
LD50 Oral Rat	> 4800 mg/kg (No mortality)
LD50 Dermal Rat	> 2375 mg/kg
LD50 Dermal Rabbit	> 2.5 ml/kg (No mortality)
LC50 Inhalation Rat	36 mg/l/4h
Skin Corrosion/Irritation	Not classified
Serious Eye Damage/Irritation	Not classified
Respiratory or Skin Sensitization	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified
Titanium dioxide (13463-67-7)	
IARC Group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (Single Exposure)	Not classified
Specific Target Organ Toxicity (Repeated Exposure)	Not classified
Aspiration Hazard	Not classified

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/Injuries After Inhalation	Prolonged exposure may cause irritation. Titanium dioxide is bound in the liquid matrix of the product, and not expected to be available for exposure under normal conditions of use or foreseeable emergencies. If dried and respirable dust is created: repeated or prolonged exposure to titanium dioxide dust via inhalation is suspected of causing cancer of the respiratory tract.
Symptoms/Injuries After Skin Contact	Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact	May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion	Ingestion may cause adverse effects.
Chronic Symptoms	Suspected of damaging fertility or the unborn child.

## SECTION 12: Ecological Information

### 12.1. Toxicity

Ecology - General Toxic to aquatic life with long lasting effects.

Titanium dioxide (13463-67-7)	
LC50 Fish	> 1000 ml/l (Exposure Time: 96h - Species: Pimephales promelas (static))
Octamethylcyclotetrasiloxane (556-67-2)	
LC50 Fish	> 22 µg/l
NOEC Chronic Fish	0.0044 mg/l

### 12.2. Persistence and Degradability

MED-4102-1	
Persistence and Degradability	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative Potential

MED-4102-1	
Bioaccumulative Potential	Not established.
Octamethylcyclotetrasiloxane (556-67-2)	
BCF Fish	12400
Partition coefficient n-octanol/water (Log Pow)	5.1

### 12.4. Mobility In Soil

No additional information available

### 12.5. Other Adverse Effects

Other Information Avoid release to the environment.

## SECTION 13: Disposal Considerations

### 13.1. Waste Treatment Methods

Waste Disposal Recommendations Additional Information Dispose of contents/container in accordance with local, regional, national, and international regulations. Container may remain hazardous when empty. Continue to observe all precautions.

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Ecology - Waste Materials

This material is hazardous to the aquatic environment. Keep out of sewers and waterways. Avoid release to the environment.

### SECTION 14: Transport Information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

#### 14.1. In Accordance with DOT

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.  
(Octamethylcyclotetrasiloxane)

Hazard Class 9 

Identification Number UN3082

Label Codes 9

Packing Group III

Marine Pollutant Marine pollutant

ERG Number 171

#### 14.2. In Accordance with IMDG

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Octamethylcyclotetrasiloxane)

Hazard Class 9 

Identification Number UN3082

Packing Group III

Label Codes 9

EmS-No. (Fire) F-A

EmS-No. (Spillage) S-F

Marine Pollutant Marine pollutant

#### 14.3. In Accordance with IATA

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Octamethylcyclotetrasiloxane)

Packing Group III 

Identification Number UN3082

Hazard Class 9

Label Codes 9

ERG Code (IATA) 9L

### SECTION 15: Regulatory Information

#### 15.1. US Federal Regulations

All components in this mixture are listed on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, have been exempted, are not listed, not disclosed due to CBI requirements or disclosure rules according to the relevant regulation.

MED-4102-1
------------

SARA Section 311/312 Hazard Classes	Health hazard - Reproductive toxicity
-------------------------------------	---------------------------------------

#### 15.2. US State Regulations

Titanium dioxide (13463-67-7)
-------------------------------



# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
---	--

### Titanium dioxide (13463-67-7)

RTK - U.S. - New Jersey - Right to Know Hazardous Substance List  
RTK - U.S. - Pennsylvania - RTK (Right to Know) List  
U.S. - Minnesota - Hazardous Substance List  
RTK - U.S. - Massachusetts - Right To Know List  
U.S. - Tennessee - Occupational Exposure Limits - TWAs  
U.S. - Vermont - Permissible Exposure Limits - TWAs  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)  
U.S. - Washington - Permissible Exposure Limits - TWAs  
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)  
U.S. - Washington - Permissible Exposure Limits - STELs  
U.S. - Illinois - Toxic Air Contaminant Carcinogens  
U.S. - New York - Occupational Exposure Limits - TWAs  
U.S. - Michigan - Occupational Exposure Limits - TWAs  
U.S. - Minnesota - Permissible Exposure Limits - TWAs  
U.S. - Oregon - Permissible Exposure Limits - TWAs  
U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term  
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour  
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups

### Octamethylcyclotetrasiloxane (556-67-2)

U.S. - Texas - Effects Screening Levels - Long Term  
U.S. - Texas - Effects Screening Levels - Short Term  
U.S. - Maine - Chemicals of Concern  
U.S. - Oregon - Priority Persistent Pollutant - Tier I - Persistent Pollutants  
U.S. - Minnesota - Chemicals of High Concern  
U.S. - Minnesota - Chemicals of High Concern - Persistent Bioaccumulative Toxins  
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups

## SECTION 16: Other Information, Including Date of Preparation or Last Revision

Date of Preparation or Latest Revision 03/21/2023

Other Information This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### GHS Full Text Phrases:

H226	Flammable liquid and vapor
H361	Suspected of damaging fertility or the unborn child
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

# MED-4102-1

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA Health Hazard

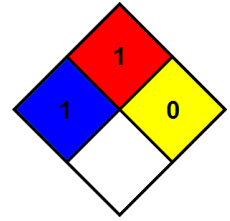
1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA Fire Hazard

1 - Materials that must be preheated before ignition can occur.

NFPA Reactivity Hazard

0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating  
Health

1 Slight Hazard  
\* Chronic - Chronic (long-term) health effects may result from repeated overexposure

Flammability  
Physical

1 Slight Hazard  
0 Minimal Hazard

The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, NUSIL TECHNOLOGY LLC AND ITS AFFILIATED COMPANIES ("NUSIL") EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of NuSil's products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, NUSIL DISCLAIMS LIABILITY FOR, AND BY USING NUSIL'S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL NUSIL BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.

Nusil US GHS SDS