

OPTIC 3101 CLEAR 5GP

SAFETY DATA SHEET

(In accordance with Article 110, Paragraph 1, of Industrial Safety and Health Act)

1. PRODUCT AND COMPANY IDENTIFICATION

A. Product name: OPTIC 3101 CLEAR 5GP

B. Recommended use and restriction on use

Recommended use: Protection of construction materials

Restrictions on use: For industrial use only.

C. Manufacturer/Importer/Distributor Information

Manufacturer/Importer/Distributor Information : Momentive Performance Materials Asia Pacific Pte, Ltd.
81 SCIENCE PARK DRIVE, THE CHADWICK #02-02, 118257
Singapore

Contact person : commercial.services@momentive.com

Telephone : +65-6496-2121

Telefax : +65-6496-2122

Emergency telephone number : +65 3165 2217 / +65 3158 1074

Responsible Department : Product Stewardship & Compliance

2. HAZARDS IDENTIFICATION

A. Hazard Classification

Physical Hazards

Flammable liquids

Category 4

B. Warning label items including precautionary statement

Signal Word: Warning

Hazard Statement(s): H227: Combustible liquid.

Precautionary Statements

Prevention: P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage: P403: Store in a well-ventilated place.

Disposal: P501: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard) No data available.

OPTIC 3101 CLEAR 5GP

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: Mixture of polydimethylsiloxanes, fillers and cross-linkers.

Mixtures

Hazardous ingredients:

Chemical Identity	CAS number	Concentration*
Titanium, Bis(ethyl acetoacetate)-diisopropoxy	27858-32-8	1 - 5%
Octamethylcyclotetrasiloxane	556-67-2	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

- A. In case of eye contact:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- B. In case of skin contact:** Wash contaminated clothing before reuse. In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
- C. In case of inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.
- D. In case of swallowing:** Do NOT induce vomiting. Give small amounts of water to drink. Get medical attention.
- E. Notes to the physician**
- Hazards** No data available.
- Symptoms:** Treatment is symptomatic and supportive.
- Treatment:** No data available.

5. FIRE-FIGHTING MEASURES

General Fire Hazards: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use standard firefighting procedures and consider the hazards of other involved materials.

A. Extinguishing media

Suitable extinguishing media: Water spray Carbon dioxide Foam.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

OPTIC 3101 CLEAR 5GP

- B. Special hazards arising from the substance or mixture:** In case of fire, carbon monoxide and carbon dioxide may be formed. Acute overexposure to the products of combustion may result in irritation of the respiratory tract. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.
- C. Special fire-fighting procedures:** When using do not smoke. Do not empty into drains.
- Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

- A. Personal precautions, protective equipment and emergency procedures:** Product releases methanol during application and curing. Avoid contact with eyes, skin, and clothing. Use only in well-ventilated areas. Avoid inhalation of vapors and spray mists. Keep container closed. Keep out of reach of children.
- B. Environmental Precautions:** Do not allow runoff to sewer, waterway or ground.
- C. Methods and material for containment and cleaning up:** Remove sources of ignition. Take up with an absorbent for chemicals or, otherwise use dry sand.
- Notification Procedures:** Caution: Contaminated surfaces may be slippery. See Section 8 of the SDS for Personal Protective Equipment.

7. HANDLING AND STORAGE

- A. Precautions for safe handling:** Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. See Section 8 of the SDS for Personal Protective Equipment. Use only in well-ventilated areas.
- B. Conditions for safe storage, including any incompatibilities:** Keep container tightly closed and in a well-ventilated place. Keep in an area equipped with solvent resistant flooring. Store in original container, protected from direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- A. Exposure limit values, biological values, etc.**
Occupational Exposure Limits
None of the components have assigned exposure limits.
- B. Appropriate engineering controls:** Eye wash facilities and emergency shower must be available when handling this product.
- C. Personal protective equipment (ppe)**
- Eye Protection** Safety glasses with side shields
- Hand Protection:** Chemical resistant gloves
- Respiratory Protection:** Wear suitable respiratory protection.
- Body protection** Wear rubber apron. Wear suitable protective clothing and eye/face protection.

OPTIC 3101 CLEAR 5GP

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance

Physical state:	liquid
Form:	liquid
Color:	Milky white

B. Odor:

Mild

C. Odor Threshold:

No data available.

D. pH:

No data available.

E. Melting point/freezing point

No data available.

F. Boiling point, initial boiling point, and boiling range

No data available.

G. Flash Point:

81.5 °C (ASTM D56 (Tag (Closed Cup)))

H. Evaporation Rate:

No data available.

I. Flammability (solid, gas):

No data available.

J. Upper/lower limit on flammability or explosive limits

Flammability Limit - Upper (%): No data available.

Flammability Limit - Lower (%): No data available.

Dust Explosion Limit, Upper: No data available.

Dust Explosion Limit, Lower: No data available.

K. Vapor pressure:

No data available.

L. Relative vapor density:

No data available.

M. Density:

1.03 g/cm³

N. Specific Gravity:

1.03

O. Solubility(ies)

Solubility in Water: No data available.

Solubility (other): No data available.

P. Partition coefficient (n-octanol/water)

No data available.

Log Pow:

Q. Autoignition Temperature:

No data available.

R. Decomposition Temperature:

No data available.

S. SADT:

No data available.

T. Viscosity, dynamic:

10,000 mPa·s (40 °C) | 12,000 mPa·s (23 °C)

Viscosity, kinematic:

No data available.

U. Molecular weight:

No data available.

10. STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential:

Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

B. Conditions to avoid:

Keep away from heat. Keep away from sources of ignition - No smoking.

OPTIC 3101 CLEAR 5GP

C. Incompatible Materials:	None known.
D. Hazardous Decomposition Products:	Carbon dioxide Silicon dioxide. Formaldehyde. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

11. TOXICOLOGICAL INFORMATION

A. Information on likely routes of exposure

Respiratory organs:	No data available.
Oral:	No data available.
Skin:	No data available.
eye:	No data available.

B. Information on health hazards

Acute toxicity (list all possible routes of exposure)

Oral

Product:	Not classified for acute toxicity based on available data.
Specified substance(s) Titanium, Bis(ethyl acetoacetate)-diisopropoxy Octamethylcyclotetrasiloxane	No data available. LD 50 (Rat): > 4,800 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity)) Not classified

Dermal

Product:	Not classified for acute toxicity based on available data.
Specified substance(s) Titanium, Bis(ethyl acetoacetate)-diisopropoxy Octamethylcyclotetrasiloxane	No data available. LD 50 (Rat): > 2,375 mg/kg (OECD Test Guideline 402) Not classified

Inhalation

Product:	Not classified for acute toxicity based on available data.
Specified substance(s) Titanium, Bis(ethyl acetoacetate)-diisopropoxy Octamethylcyclotetrasiloxane	No data available. Aerosols: LC50 (Rat, male and female, 4 h): 36 mg/l (OECD Test Guideline 403) Not classified

Repeated dose toxicity

Product:	No data available.
Specified substance(s) Titanium, Bis(ethyl acetoacetate)-diisopropoxy Octamethylcyclotetrasiloxane	No data available. No data available.

Corrosivity or irritation to the skin:

Product:	No data available.
Specified substance(s) Titanium, Bis(ethyl acetoacetate)-diisopropoxy	No data available.

OPTIC 3101 CLEAR 5GP

Octamethylcyclotetrasiloxane OECD Test Guideline 404 (Rabbit): Non irritating

Serious Eye Damage/Eye Irritation:

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane OECD-Guideline 405 (Acute Eye Irritation/Corrosion) (Rabbit): Non irritating

Respiratory or Skin Sensitization:

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane Maximisation Test, OECD-Guideline 406 (Skin Sensitisation) (Guinea Pig): Not sensitizing

Mutagenesis

In vitro

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane Ames-Test (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): negative (not mutagenic)
Mouse Lymphoma Assay (OECD Guideline 476): negative (not mutagenic)

In vivo

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane Chromosomal aberration (OECD 475) Inhalation (Rat, male and female): negative
Dominant lethal assay (OECD 478) Oral (Rat, male and female): negative

Carcinogenicity

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl acetoacetate)-diisopropoxy No data available.

Octamethylcyclotetrasiloxane No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

OPTIC 3101 CLEAR 5GP

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No data available.

Other effects: No data available.

12. ECOLOGICAL INFORMATION

General information: Not applicable

A. Ecotoxicity

Acute hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No toxicity at the limit of solubility LC50 (Oncorhynchus mykiss, 96 h): > 0.022 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No toxicity at the limit of solubility EC50 (Daphnia magna, 48 h): > 0.015 mg/l

Chronic hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl
acetoacetate)-diisopropoxy
Octamethylcyclotetrasiloxan
e No data available.
No toxicity at the limit of solubility NOEC (Oncorhynchus mykiss, 93 d): >= 0.0044 mg/l

OPTIC 3101 CLEAR 5GP

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane No toxicity at the limit of solubility NOEC (Daphnia magna, 21 d): > 0.015 mg/l

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane No toxicity at the limit of solubility ErC50 (Selenastrum capricornutum, 96 h): > 0.022 mg/l

B. Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane 3.7 % (29 d, 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test))
Not readily biodegradable.

BOD/COD Ratio

Product No data available.

Specified substance(s)

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane No data available.

e

C. Bioaccumulative potential

Product: No data available.

Specified substance(s)

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane Bioconcentration Factor (BCF): 12,400

e

D. Mobility in soil:

No data available.

Known or predicted distribution to environmental compartments

Titanium, Bis(ethyl

acetoacetate)-diisopropoxy

Octamethylcyclotetrasiloxane No data available.

E. Other adverse effects:

No data available.

OPTIC 3101 CLEAR 5GP

13. Disposal considerations

General information:

The generation of waste should be avoided or minimized wherever possible. Do not discharge into drains, water courses or onto the ground. See Section 8 for information on appropriate personal protective equipment.

A. Disposal methods:

Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

B. Disposal considerations (including disposal of contaminated containers or packaging)

The generation of waste should be avoided or minimized wherever possible. The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

14. TRANSPORT INFORMATION

IMDG

Not regulated.

IATA

Not regulated.

Special precautions for user:

This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons. The product is not regulated for transport by the IATA, ADR/RID, ADN or the IMDG regulations.

15. REGULATORY INFORMATION

A. Restriction under the Industrial Safety and Health Law

Controlled Hazardous Substances

None present or none present in regulated quantities.

Harmful Substances Prohibited from Manufacturing

None present or none present in regulated quantities.

Harmful Substances Requiring Permission for Manufacture or Use

None present or none present in regulated quantities.

Harmful Substances Requiring Special Medical Examination

None present or none present in regulated quantities.

Harmful Substances Requiring Workplace Environment Monitoring

None present or none present in regulated quantities.

Harmful Agents to be kept below Occupational Exposure Limits

None present or none present in regulated quantities.

B. Restrictions under the Chemicals Control Law

Accidental Release Prevention Substances

None present or none present in regulated quantities.

Banned Toxic Chemicals

None present or none present in regulated quantities.

OPTIC 3101 CLEAR 5GP

Restricted Chemical Substances

None present or none present in regulated quantities.

Toxic Chemicals

None present or none present in regulated quantities.

Toxic release inventory

None present or none present in regulated quantities.

C. Restrictions under the Dangerous Substances Safety Management Act

Class 4, Group 3 oils Non-water soluble

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants

Not Regulated

Specific Air Pollutants

Not Regulated

Inventory Status

Australia AICS:	On or in compliance with the inventory	Remarks: None.
Canada DSL Inventory List:	q (quantity restricted)	Remarks: None.
Japan (ENCS) List:	On or in compliance with the inventory	Remarks: None.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory	Remarks: None.
Canada NDSL Inventory:	Not in compliance with the inventory.	Remarks: None.
Philippines PICCS:	Not in compliance with the inventory.	Remarks: None.
US TSCA Inventory:	On or in compliance with the inventory	Remarks: None.
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.	Remarks: None.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory	Remarks: None.

16. OTHER INFORMATION

A. Source of information: No data available.

B. Issue Date 2023/06/29

C. Date of first report version 2019/05/13

D. Version#: 2.0

E. Other: No data available.

OPTIC 3101 CLEAR 5GP**Disclaimer:****Notice to reader**

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives.

Further Information

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.

® and TM indicate trademarks owned by or licensed to Momentive.