

SAFETY DATA SHEET

TORLON® 4301

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

1.1. Identification of the substance/preparation

Product name : TORLON® 4301

1.2. Use of the Substance/Preparation

Recommended use : - For further information, please contact: Supplier

1.3. Company/Undertaking Identification

Address :

-

Telephone :

Telefax :

1.4. Emergency and contact telephone numbers

Emergency telephone number : 1 (770) 772 8577
1 (770) 772-8880
+32-55-339505 (Europe) [Other Product Information]

2. COMPOSITION/INFORMATION ON INGREDIENTS

Poly(amide-imide) polymer

CAS-No. : -
Concentration : $\geq 82,00 - \leq 92,00$ %

Graphite (natural)

CAS-No. : 7782-42-5
EINECS-No. : 231-955-3
Concentration : $\geq 7,00 - \leq 13,00$ %

Polytetrafluoroethylene

CAS-No. : 9002-84-0
Concentration : $\geq 1,00 - \leq 3,00$ %

3. HAZARDS IDENTIFICATION

- Product dust may be irritating to eyes, skin and respiratory system.
- Hazardous decomposition products formed under fire conditions.

4. FIRST AID MEASURES

4.1. Inhalation

- Remove to fresh air.



- Call a physician immediately.
- Hazardous decomposition products
- Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.

4.2. Eye contact

- Flush eyes with running water for several minutes, while keeping the eyelids wide open.
- If eye irritation persists, consult a specialist.

4.3. Skin contact

- Cool skin rapidly with cold water after contact with hot polymer.
- Do not peel polymer from the skin.
- Obtain medical attention.

4.4. Ingestion

- Never give anything by mouth to an unconscious person.
- If a large amount is swallowed, get medical attention.

5. FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media

- powder
- Foam
- Water
- Water spray
- Carbon dioxide (CO₂)

5.2. Extinguishing media which must not be used for safety reasons

- None.

5.3. Special exposure hazards in a fire

- Combustible material
- In a fire, the polymer melts, producing droplets which may propagate fire.
- Once started, a fire will tend to self extinguish (see section 9).
- Risk of dust explosion.
- Heating can release hazardous gases.

5.4. Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Fire fighters must wear fire resistant personnel protective equipment.

5.5. Other information

- Avoid dust formation.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

- Sweep up to prevent slipping hazard.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions

- Should not be released into the environment.
- Do not flush into surface water or sanitary sewer system.

6.3. Methods for cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.



- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

7. HANDLING AND STORAGE

7.1. Handling

- Take measures to prevent the build up of electrostatic charge.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Use only equipment and materials which are compatible with the product.
- To avoid thermal decomposition, do not overheat.

7.2. Storage

- Keep container closed.
- Keep away from heat and sources of ignition.

7.3. Specific use(s)

- For further information, please contact: Supplier

7.4. Other information

- Keep away from open flames, hot surfaces and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.
- Do not smoke.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure Limit Values

Poly(amide-imide) polymer

- US. ACGIH Threshold Limit Values
= 10 mg/m³
Remarks: Inhalable PNOC (Particulates Not Otherwise Classified)
- US. ACGIH Threshold Limit Values
= 3 mg/m³
Remarks: Respirable PNOC (Particulates Not Otherwise Classified)

Graphite (natural)

- US. ACGIH Threshold Limit Values 2004
= 2 mg/m³
Remarks: Respirable fraction

Polytetrafluoroethylene

Remarks: Thermal decomposition of the fluorocarbon chain in air leads to the formation of oxidized products containing carbon, fluorine and oxygen. No TLVs are recommended at this time, but air concentration should be controlled as low as possible.

- US. ACGIH Threshold Limit Values
TWA = 5 mg/m³
Remarks: Respirable dust
- US. ACGIH Threshold Limit Values
TWA = 10 mg/m³
Remarks: Total dust

8.2. Exposure controls

- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.



8.2.1. Occupational exposure controls

8.2.1.1. Respiratory protection

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Use only respiratory protection that conforms to international/ national standards.

8.2.1.2. Hand protection

- When handling hot material, use heat resistant gloves.

8.2.1.3. Eye protection

- Safety glasses with side-shields
- Dust proof goggles, if dusty.

8.2.1.4. Skin and body protection

- long sleeved clothing

8.2.1.5. Hygiene measures

- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.

8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General Information (appearance, odour)

Appearance	:	pellets
Colour	:	black
Odour	:	odourless

9.2. Important health safety and environmental information

pH	:	<i>Remarks: not applicable</i>
Boiling point/range	:	<i>Remarks: not applicable</i>
Flash point	:	<i>Remarks: not applicable</i>
Flammability	:	<u>Upper explosion limit:</u> <i>Remarks: no data available</i> <u>Lower explosion limit:</u> <i>Remarks: no data available</i>
Explosive properties	:	<u>Explosion danger:</u> <i>Remarks: Risk of dust explosion.</i>
Vapour pressure	:	<i>Remarks: not applicable</i>
Relative density / Density	:	<i>Remarks: no data available</i>
Solubility	:	Water <i>Remarks: negligible</i>
Partition coefficient (n-octanol/water)	:	<i>Remarks: not applicable</i>

9.3. Other data



: 280 °C
Remarks: Softening point

Decomposition temperature : *Remarks:* no data available

10. STABILITY AND REACTIVITY

10.1. Stability

- Stable under normal conditions.
- Hazardous Polymerisation/Polymerization: no

10.2. Conditions to avoid

- Heat, flames and sparks.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.

10.3. Materials to avoid

- no data available

10.4. Hazardous decomposition products

- Carbon dioxide (CO₂), The release of other hazardous decomposition products is possible.

11. TOXICOLOGICAL INFORMATION

11.1 Toxicological data

Remarks

- The product is biologically inert.
- Because the components are encapsulated in the resin and may not be bioavailable in the body, they may not exert the above mentioned health effects.
- Product dust may be irritating to eyes, skin and respiratory system.
- Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.
- The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

11.2. Health effects

Inhalation

- Mechanical irritation from the particulates generated by the product.
- Thermal decomposition can lead to release of hazardous gases and vapors

Eye contact

- Mechanical irritation from the particulates generated by the product.

Skin contact

- Mechanical irritation from the particulates generated by the product.

Ingestion

- Low ingestion hazard.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity effects

Acute toxicity

- *Remarks:* no data available

Chronic toxicity

- *Remarks:* no data available



12.2. Mobility

- Remarks: no data available

12.3. Persistence and degradability

Abiotic degradation

- Result: no data available

Biodegradation

- Remarks: no data available

12.4. Bioaccumulative potential

- Result: no data available

12.5. Other adverse effects

- no data available

12.6. Remarks

- The product is biologically inert.
- Ingestion of solids may cause harm to wildlife due to intestinal mechanical blockage or starvation from false feeling of satiation.

13. DISPOSAL CONSIDERATIONS

13.1. Waste from residues / unused products

- In accordance with local and national regulations.
- Refer to manufacturer/supplier for information on recovery/recycling.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.
- Can be landfilled, when in compliance with local regulations.

13.2. Packaging treatment

- Empty containers.
- Dispose of as unused product.

14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
not regulated
- Air (ICAO/IATA)
not regulated
- European Road/Rail (ADR/RID)
not regulated

15. REGULATORY INFORMATION

15.1. EC Label

- Not classified according to Directive 67/548/EEC.

15.2. Inventory Information

Toxic Substance Control Act list (TSCA)	: -	Listed on inventory.
Canadian Domestic Substances List (DSL)	: -	Listed on inventory.
Australian Inventory of Chemical Substances (AICS)	: -	One or more components not listed on inventory.
Japanese Existing and New	: -	Listed on inventory.



Chemical Substances (MITI List) (ENCS)		
Korean Existing Chemicals List (ECL)	: -	Listed on inventory.
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	: -	One or more components not listed on inventory.
Inventory of Existing Chemical Substances (China) (IECS)	: -	In compliance with inventory.
EU list of existing chemical substances (EINECS)	: -	In compliance with inventory.

16. OTHER INFORMATION

Administrative information

- Update
- Supersedes version dated: 17.01.2000

This MSDS is intended for only the selected countries to which it is applicable. For example, this MSDS is not intended for use nor distribution within North America. You should contact Solvay America company representative for the official North America MSDS.

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

