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| Product name | TOPAS Toner | | EU/EN |
| MSDS number | TP06 | Revision Date | 19.Jun.2006 |
| Revision Number | 2 | Issuing date | 25.Jun.2006 |

1. Identification of the substance/preparation and the company/undertaking

Product name
Topas® Cyclic Olefin Copolymers

Manufacturer, importer, supplier
 Topas Advanced Polymers GmbH
 D-65926 Frankfurt

Product Information
 +49 (0)1805-1-86727

Emergency telephone number
 +49 (0) 69-305 6418

End use:
 inks and paints

2. Composition/information on ingredients

Chemical characterization contains ethylene-norbornene copolmer , (CAS 26007-43-2) .

Remarks The following specific grades of Topas are covered by this MSDS:
 Toner TB; Toner TM

3. Hazards identification

Statements of hazard The product does not require a hazard warning label in accordance with EC Directives.

Contact with product at elevated temperatures can result in thermal burns

4. First aid measures

General Information Wash contaminated clothing before re-use.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Skin Cool skin rapidly with cold water after contact with molten polymer. Obtain medical attention.



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Eyes Resin particles, like other inert materials, are mechanically irritating to eyes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Ingestion If swallowed, seek medical advice immediately and show this container or label. If conscious, drink plenty of water. Do not induce vomiting without medical advice.

Notes to physician

Main symptoms None known.
Treatment Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media
 water spray. foam. dry powder. carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons
 Do not use a solid water stream as it may scatter and spread fire.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon monoxide carbon dioxide (CO2)
 Combustion gases of organic materials must in principle be graded as inhalation poisons

Special protective equipment for firefighters
 Wear self contained breathing apparatus for fire fighting if necessary.

Environmental precautions
 Dike and collect water used to fight fire.

Other Information
 Cool containers / tanks with water spray. Keep people away from and upwind of fire.

6. Accidental release measures

Environmental precautions
 Not readily biodegradable. Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for cleaning Up
 Shovel or sweep up. Like most thermoplastic plastics the product can be recycled. Keep in suitable and closed containers for disposal. Dispose of in accordance with local regulations.

7. Handling and storage



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7. Handling and storage

Handling

Advice on safe handling

Do not handle hot or molten material without appropriate protective equipment. Do not exceed recommended process temperatures to minimize release of decomposition products. .

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Avoid dust formation.

Storage

Material storage

Keep in a dry, cool and well-ventilated place.

Technical measures/Storage conditions

Keep away from direct sunlight.

Incompatible products

No special restrictions on storage with other products.

German storage class

11: Combustible solids.

8. Exposure controls / personal protection

National occupational exposure limits (Germany)

| Components | AGW | STEL Factor |
|-----------------|----------------------|-------------|
| Total Dust | 10 mg/m ³ | 2 |
| Respirable Dust | 3 mg/m ³ | 2 |

ACGIH Exposure Limits

| Components | TWA |
|-----------------|----------------------|
| Total Dust | 10 mg/m ³ |
| Respirable Dust | 3 mg/m ³ |

Engineering measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.



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| General advice | Avoid contact with skin and eyes. Remove and wash contaminated clothing before re-use. |
| Hygiene measures | Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use. |
| Respiratory protection | If the dust exposure limit is exceeded, wear dust mask or respirator with particle filter. |
| Eye protection | safety glasses. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. |
| Hand protection | |
| Heat-resistant gloves | |
| Suitable material | leather gloves |

9. Physical and chemical properties

| | |
|-------------------------|----------------------------------|
| Appearance | |
| Form | granules |
| Colour | colourless |
| Odour | almost odourless, characteristic |
| Softening point | > 60 °C / 140 F |
| Bulk density | 510 g/l |
| Method | DIN 53466 |
| Vapour pressure | < 0.001 mm Hg |
| Water solubility | insoluble |
| VOC Content(%) | < 0.5 % (wt/wt) |

10. Stability and reactivity

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|------------------------------|---|
| Stability | Stable under normal conditions of handling, use and transportation. |
| Conditions to avoid | Avoid temperatures above 350°C / 662F Product decomposes at elevated temperatures |
| Materials to avoid | oxidizing agents. |
| Thermal decomposition | Thermal decomposition can take place above 350°C. |



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Hazardous reactions Hazardous polymerisation does not occur.

11. Toxicological information

Toxicological data are not available. Observe the usual hygienic measures for handling chemicals.

12. Ecological information

Ecotoxicological data are not available. According to experience, the material has no harmful effect on the environment.

13. Disposal considerations

Product information May be taken to waste disposal site or incineration plant,with household waste.
Rules of the local authorities must be observed.

Uncleaned empty packaging Regulations concerning reuse or disposal of used packaging materials must be observed.

14. Transport information

ADR/RID Not regulated

ADNR Not regulated

ICAO/IATA Not restricted

IMDG Not regulated

15. Regulatory information

Labelling in accordance with EC directives

The product does not require a hazard warning label in accordance with EC directives/the relevant national laws.

16. Other information

EC SAFETY DATA SHEET 2001/58/EG



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For further information, see:

For more information, consult the Technical Data Sheet (www.topas.com).

Other Information:

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Changes against the previous version are marked by ***

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on Topas owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 2001/58/EC indicates, that no data meeting these requirements is available.

Further information

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality