

Safety Data Sheet

1. Product and Company Information

Product name	:	Mixed Cellulose Esters Membrane Filter (White)
Supplier company name, address, phone number	:	
Company	:	Toyo Roshi Kaisha, Ltd.
Head office	:	Hibiya-Kokusai BLDG 5F, 2-2-3 Uchisaiwaicho, Chiyoda-ku, Tokyo, 100-0011 Japan
Section in charge	:	Quality Assurance Department
Phone	:	+81-3-5521-2176
Fax	:	+81-3-5521-2177
E-mail	:	trk-hinsho@advantec.co.jp
Recommended application	:	Liquid microfiltration, sterilization. Microbiological and Particulate analysis.
Restrictions in use	:	• Please consult us for other uses.

2. Hazard Summary

GHS Classification	:	
Physical hazards	:	
Flammable solids	:	Category 1.
Human health hazard	:	Cannot be classified.
Environmental hazard	:	Cannot be classified.
Label element	:	
Pictograms or symbols	:	
Signal words	:	Danger.
Hazard statements	:	Flammable solids.
Precautionary statements	:	Keep away from heat, high-temperature object, sparks, open flames and other ignition sources. No smoking. Containers must be grounded. Use explosion-proof type electrical equipment, ventilation systems and lighting equipment. Wear protective gloves / protective clothing / protective eyeglasses / protective face mask.
Safety measure	:	
First aid measures	:	In case of fire, use appropriate fire extinguishing agent to extinguish.

3. Composition and Information on ingredients

Chemical substance/Mixture	:	Mixture
Chemical name or general product name	:	Membrane Filter
Ingredients and Content	:	Cellulose nitrate About 82~86% (CAS No.9004-70-0) Cellulose acetate (CAS No.9004-35-7) Wetting agent

Reference Number in Gazetted List in Japan

• Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture etc.	:	(8)-176	Cellulose nitrate
• Japanese Chemical Substances Control Act.	:	(8)-165	Cellulose acetate
Japan's Industrial Safety and Health Act.	:	Appendix No.9-424	Nitrocellulose (Cellulose nitrate)
UN Classification	:	Class 4.1	UN packing group II
UN No.	:	3270	
			(NITROCELLULOSE MEMBRANE FILTERS)

4. First Aid Measures

Inhalation	:	Not applicable.
Skin contact	:	Not applicable.
Eye contact	:	Immediately wash thoroughly with clean running water. In case of abnormality, consult with a physician.
Ingestion	:	Rinse mouth. Do not force vomiting. Get medical attention and diagnosis.

5. Fire Fighting Measures

Extinguishing media	:	A copious amount of water (spray), carbon dioxide, fire-extinguish powder, foam fire-extinguisher, sand, and soil, etc.
Unacceptable extinguishing media	:	No data available.
Extinguishing procedure	:	Do not extinguish a fire when the fire starts to explode. Evacuate the section. If a fire breaks out around the area, please transfer to a transportable container in a safe place. If the container is exposed to heat, please do not transfer it. If it is impossible to transfer the container sprinkle the container and surroundings with water to cool them down. After extinguishing, cool down the container with a plenty of water. When extinguishing fire, wear complete protective clothing (heat resistant) together with air respirator. (Cellulose nitrate)

6. Accidental Release Measures

Personnel precautions, protective equipment and emergency procedures	:	No data available.
Precautions for environment	:	No data available.
Methods and materials for containment and cleaning up	:	No data available.

7. Handling and Storage

Handling	:	Follow corresponding regulations such as Industrial Safety and Health Law and Fire Defense Law. Persons under the age of 18 or mental and physical disabilities cannot handle the explosives properly. These who takes measure to prevent harm, do not handle explosives to those specified by Cabinet Order.
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Storage	<p>Do not handle until all safety precautions have been read and understood. Prohibit the use of high temperature objects, sparks, and the fire in the surroundings areas.</p> <p>Avoid heat and shock.</p> <p>Avoid breathing mist and vapours.</p> <p>If a fire breaks out, the container might explode, and you will need to evacuate the section.</p> <p>Please do not lean the container on its side, drop it, apply shock or drag.</p> <p>Do not subject the container to a crush, big impact or dragging.</p> <p>Wash hands thoroughly after handling.</p> <p>Do not get in your eyes.</p> <p>Do not get in contact, inhale or swallow.</p> <p>Use only outdoors or in a well-ventilated area.</p> <p>Keep away from ignition sources like heat, sparks and flames.</p> <p>No smoking.</p> <p>Keep containers away from direct sunlight and fire.</p> <p>Keep container tightly closed and store in well-ventilated place.</p> <p>Keep it in accordance with the rules of the state or province.</p> <p>Avoid long-term storage and strictly follow the expiration date.</p> <p>If a total stored amount exceeds 10 kg, follow Fire Defense Law(hazardous).</p>
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8. Prevention of exposure and human body protection

Acceptable concentration Japan Society for Occupational Health	:	No data available.
Acceptable concentration ACGIH	:	No data available.
Facility provision	:	Take effective measures if necessary.
Protective equipment	:	Use appropriate protective tools if necessary.

9. Physical and Chemical Properties

Physical property	:	Solid, porous film.
Color	:	White.
Odour	:	N/A
Melting point / Freezing point	:	No data available.
Boiling point or initial boiling point and boiling range	:	No data available.
Flammability	:	Yes.
Lower explosion limit and upper explosion limit / Flammability limit	:	Not applicable.
Flash point	:	Not applicable.
Spontaneous ignition point	:	No data available.
Decomposition temperature	:	No data available.
pH	:	No data available.
Kinematic viscosity	:	Not applicable.
Solubility	:	Insoluble in water. (Wetting agent is soluble.)

n-octanol / Water partition coefficient	:	No data available.
Vapor pressure	:	No data available.
Density or relative density	:	No data available.
Relative gas density	:	Not applicable.
Particle characteristics	:	No data available.

10. Stability and Reactivity

Reactivity	:	Stable under normal handling.
Chemical Stability	:	Stable under normal handling.
Possibility of hazardous reactions	:	Easily ignite by catching a fire. It may suddenly ignite or explode by coming in contact with oxidant, acid, base, or combustible agents. It may suddenly ignite or explode by a blow, static electricity, shock, or heat.
Conditions to avoid	:	Easy to oxidize under high temperature and high Humidity environment, which induces higher possibility for spontaneous ignition. Fire, high temperature, high humidity, blow, electrostatic, shock, and/or heat.
Hazardous substances for mixing	:	Coming in contact with to oxidant, acid, base, and / or combustible agent.
Hazardous decomposition products	:	Nitrogen oxide. Generates carbon monoxide and carbon dioxide during burning.

11. Toxicological Information

Acute toxicity		
(oral)	:	Not applicable to the classification.
(dermal)	:	Cannot be classified due to lack of data.
(inhalation: gases)	:	Cannot be classified due to lack of data.
(inhalation: vapours)	:	Cannot be classified due to lack of data.
(inhalation: dust and mist)	:	Cannot be classified due to lack of data.
Skin corrosion/ Irritation	:	Cannot be classified due to lack of data.
Serious eye damage/ eye irritation	:	Not applicable to the classification.
Respiratory sensitization / Skin sensitization	:	Cannot be classified due to lack of data.
Germ cell mutagenicity	:	Cannot be classified due to lack of data.
Carcinogenicity	:	Cannot be classified due to lack of data.
Reproductive toxicity	:	Cannot be classified due to lack of data.
Specific target organ toxicity - Single exposure	:	Cannot be classified due to lack of data. (As an ingredient) Category 3 Respiratory tract irritation, risk of irritation to respiratory. Possibility of irritable throat, vertigo, breathing difficulties and loss of consciousness in high densities. There are currently no concrete reports.
Specific target organ toxicity - Repeated exposure	:	(Cellulose nitrate) Cannot be classified due to lack of data.
Aspiration hazard	:	Cannot be classified due to lack of data.

12. Ecological Information

Ecotoxicity	
Hazardous to the aquatic environment (acute)	: Cannot be classified due to lack of data.
Hazardous to the aquatic environment (chronic)	: Cannot be classified due to lack of data.
Persistence and Degradability	: No data available.
Bioaccumulative potential	: No data available.
Mobility in soil	: No data available.
Ozone layer hazard	: Cannot be classified due to lack of data.

13. Disposal Considerations

For safety purposes have water at a close distance while incinerating small amounts at a time.
 (Cellulose nitrate)

Dispose it in accordance with national, prefectural and local regulations.

The same as general industrial waste, outsource industrial waste disposal companies or local public organizations who are authorized by governors.

In case of the incineration, use controlled incinerator following Air Pollution Control Law, Waste Disposal & Public Cleaning Law and Water Pollution Control Law. (We recommend disposing the material as an industrial waste.)

14. Transportation Notes

UN No.	: 3270
Product name (UN shipping name)	: NITROCELLULOSE MEMBRANE FILTERS, with not more than 12.6 % nitrogen, by dry mass.
Class	: 4.1
UN packing group	: II
Regulatory information in case there are domestic regulations.	: Follow Fire Defense Law, Aviation Law, and Ships Safety Law.

15. Applicable Law

Japan Industrial Safety and Health Act.	: Enforcement order separate table Article 1 Section 1, Hazardous and explosive material. 1 Nitrocellulose (Cellulose nitrate) Hazards and harmful substances should be displayed or notified. Appendix No.9-424 Nitrocellulose (Cellulose nitrate)
Fire Defense Law	: Article 9-4 (Standard for storage and handling of hazardous material with less than specified amount), Government ordinance regarding hazardous material regulations, Article 1-11, Attached table 3 and 5 (Class I self-reactive material, Fire Defense Law applicable for the material with 10 kg or more. If less than 10 kg, standards for storage and handling of the material are set by local authority.) (Cellulose nitrate)
Ships Safety Law	: Regulations for the Carriage and Storage of Dangerous Goods in Ships Articles 2 Division 4.1 flammable material (4.1 packing group II) (Cellulose nitrate)
Port Regulations Law	: Article 12 hazardous material (flammable materials) (Cellulose nitrate)

