

SAFETY DATA SHEET(SDS)

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FileNo. 1006

1. Chemical Product & Company Identification

CHEMICAL PRODUCT NAME:	DURACON®	YF-5 CF2001
RECOMMENDED USE:	Industrial products	
RESTRICTED USE:	Contact sales division about medical equipment products.	
NAME OF COMPANY:	Polyplastics Co.,Ltd.	
ADDRESS:	2-18-1 Konan, Minato-ku, Tokyo,108-8280 Japan	
SECTION IN CHARGE:	Quality Assurance Dept.	
TELEPHONE NUMBER:	+81-3-6711-8605	
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2. Hazards identification

[GHS CLASSIFICATION]

Physical and Chemical Hazards	: ·Flammable solids : Classification not possible ·Self-reactive substances and mixtures : Not applicable ·Pyrophoric solids : Not classified ·Self-heating substances and mixtures : Not classified ·Substances and mixtures, which in contact with water, emit flammable gases : Not classified ·Oxidizing solids : Not classified ·Corrosive to metal : Not classified
Health Hazards	: Carcinogenicity : No hazard Specific target organ/systemic toxicity (Repeated exposure) : No hazard
Environmental Hazards	: No hazard
[SYMBOL]	: None
[SIGNAL WORD]	: None
[HAZARD STATEMENT]	: None
[PRECAUTIONARY STATEMENTS]	
Prevention	: ·Wash hands thoroughly after handling. ·Wear protective gloves.
Response	: -
Storage	: Avoid direct sunlight and store in a well-ventilated place.
Disposal	: Dispose of contents/container in accordance with local & national regulations.

3. Composition/information on ingredients

SUBSTANCE/MIXTURES	: Mixtures
COMMON CHEMICAL NAME	: Polyoxymethylene
SYNONYMS	: Polyacetal(POM)
INGREDIENTS AND COMPOSITION	: POM $\geq 94\%$, Polytetrafluoro ethylene(PTFE) and Others $\leq 6\%$
CHEMICAL FORMULA	: $-(CH_2-O)_p- / -(CH_2CH_2O)_q-$
CAS No.	: 24969-26-4(base resin)
INGREDIENTS CONTRIBUTING TO THE HAZARD	: Formaldehyde. Cadmium, lead, hexavalent chromium and mercury are not used in this grade.

The specific chemical identities and percentages of composition have been withheld as trade secrets.

4. First-aid measures

INHALATION	: When a gas generated from the molten polymer has been inhaled, move to area of fresh air without delay and wait until the victim is recovered. If sick feeling continues, ask a physician for advice.
SKIN CONTACT	: Cool the contacted skin with clean water without delay, if a

	contact with the polymer in a molten form. Do not force to remove the solid resin on the skin. If any burns are observed on the skin, ask a physician for advice.
EYE CONTACT	: Cool and rinse the eye with clean water for at least 15 minutes when the eyes had contact with molten polymer. In case of wearing contact lenses, remove the lenses as soon as possible, and ask a physician for advice. When the eye had contact with the polymer in an ordinary solid form, rinse the eye with clean water without delay. If the discomfort persists, ask a physician for advice.
INGESTION	: Help to vomit as much as possible. If sick feeling continues, and ask a physician for advice.
MOST IMPORTANT SYMPTOMS	: None known
IMMEDIATE MEDICAL ATTENTION	: None known
5. Fire-fighting measures	
EXTINGUISHING MEDIA	: Water, foam fire-extinguishing agent, powder fire-extinguishing agent, and carbon dioxide gas.
SPECIFIC METHODS	: Extinguish the fire with water. A method of extinguishing an ordinary fire may be applied. Do not apply water directly to processing machines.
SPECIFIC HAZARDS	: Incomplete combustion leads to generation of toxic gases such as carbon monoxide or formaldehyde, in addition to carbonic acid gas and water. The filler, PTFE, generates hazardous fume and gases when it is heated up to a high temperature.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS	: In case the fire gained force, use a gas mask or other protective equipment.
6. Accidental release measures	
PERSONAL PRECAUTIONS	: When pellets were spilled on the road or floor, wipe them off with a besom or cleaner not to cause slipping.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	: Handle the spillage in accordance with provisions given in the "Resin pellet spillage preventive manual", in order to prevent intakes by marine animals and birds.
7. Handling and storage	
HANDLING	: Polyacetal resin in a pellet form will neither ignite nor explode at room temperatures. Keep it away from the igniting sources, as it quickly gains force once it is ignited.
HANDLING 2	: Polyacetal resin in a powdered form is likely to cause dust explosion and is therefore designated in the Guideline for Hazard of Dust Explosion in U.S. Bureau of Mines. Effective earthing means or use of inert gas like N2 are required for dust handling equipment to eliminate static electricity.
HANDLING 3	: This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.
HANDLING 4	: For molding work, effective means for local exhaust are required to discharge gases generated by melt processing.
HANDLING 5	: Avoid inhaling of gases generated in molding work. Do not directly touch resin of high temperature.
HANDLING 6	: Avoid retaining hot resin in processing machines for many hours.
HANDLING 7	: Avoid mixed extrusion with strong acid, oxidizing agents and PVC.
STORAGE	: Keep the substance away from any fire or heat sources for the sake of safe storage.
STORAGE 2	: This polymer is a flammable synthetic resin and should be handled in accordance with municipal rules and regulations (concerning fire-fighting equipment, indoor storage, for instance).
STORAGE 3	No smoking at a storage.



STORAGE 4

Smoking a cigarette to which a PTFE product is adhered may lead to inhaling a decomposed gas. Therefore, prohibit smoking at working places. Wash your face and hands after handling products. Keep it in mind that the products will not adhere to the cigarettes. Close the cover of products after handling products.

RECOMMENDED PACKAGING MATERIALS

: No information.

8. Exposure controls/ personal protection

CONTROL CONCENTRATION

: None at present

PERMISSIBLE CONCENTRATION

: OSHA PEL/1985

Max. permissible concentration of inactive powder 15mg/m³

- ditto - (Aspiration) 5mg/m³

ACGIH TLV/1992 1993

Exposure limit of the powder TWA 10 mg/m³

(Reference) Human exposure to formaldehyde

Ministry of Health & Welfare/2002

Guideline value 0.08 ppm

OSHA Parameter/1992

TWA 0.75 ppm

STEL 2 ppm

ACGIH TLV/1992 1993

TWA 0.3 ppm

ENGINEERING MEASURE

: ·When handling dust: Use totally enclosed containers resisting dust explosion.

·When heat melted in molding: Effective local ventilation must be provided.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION

: Wear a dust-proof mask.

HAND PROTECTION

: Wear heat-resisting gloves against burns, when handling molten polymer.

EYE PROTECTION

: Wear protective glasses or goggles.

SKIN & BODY PROTECTION

: Wear long sleeve clothes against burns, when handling molten polymer.

9. Physical and chemical properties

APPEARANCE etc.

: Pellet

ODOR

: Not available

ODOR THRESHOLD

: Not available

pH

: Not available

MELTING POINT

: 165°C

INITIAL BOILING POINT

: Not applicable

FLASH POINT

: 320°C or higher

EVAPORATION RATE

: Not applicable

FLAMMABILITY

: Flammable

UPPER/LOWER EXPLOSIVE LIMITS

: Upper limit: Not applicable. Lower limit: 35g/m³

VAPOR PRESSURE

: Not applicable

VAPOR DENSITY

: Not applicable

RELATIVE DENSITY

: 1.43

SOLUBILITY

: Insoluble in water

PARTITION COEFFICIENT

: Not applicable

(n-octanol/water)

AUTO-IGNITION TEMPERATURE

: 400°C or higher

DECOMPOSITION TEMPERATURE

: Not available

VISCOSITY

: Not available

10. Stability and reactivity

STABILITY AND REACTIVITY

: Stable for normal storage or handling.

POSSIBILITY OF HAZARDOUS REACTIONS	: Not available
CONDITIONS TO AVOID and INCOMPATIBLE MATERIALS	: Avoid contacts with strong acid, oxidizing agent or PVC under hot melt conditions
CONDITIONS TO AVOID 2	The filler PTFE starts decomposing very slowly at a temperature higher than 260°C. The decomposition rate increases at a temperature higher than 400°C. (Temperature level and constituents likely to start formation)
	Tetrafluoroethylene 430°C or higher
	Hexafluoropropylene 440°C or higher
	Perfluoroisobutylene 475°C or higher
	Carbonyl fluoride 500°C or higher
INCOMPATIBLE MATERIALS 2	The filler PTFE could react with powdered metals such as aluminium or magnesium and with oxydizing agents such as fluorine and fluorides like fluorine trichloride and cause fire or explosion.
HAZARDOUS DECOMPOSITION PRODUCTS	: Formaldehyde will be generated when heated (for drying or melting) or burnt.
11. Toxicological information	
SKIN CORROSION/IRRITATION	: No finding.
SERIOUS EYE DAMAGE/IRRITATION	: Gas generated in drying or melting is irritating eyes and skins.
RESPIRATORY OR SKIN SENSITISATION	: No finding
ACUTE TOXICITY(INCLUDING LD50)	: No finding.
SUBACUTE TOXICITY	: No finding.
CHRONIC TOXICITY	: No finding.
CARCINOGENICITY	: No finding.
MUTAGENICITY(Micro organisms, chromosomal aberration)	: No finding.
REPRODUCTIVE TOXICITY	: No finding.
TERATOGENICITY	: No finding.
OTHERS(Including generation of hazardous gases by reaction with water, for example)	: No finding in this report means that there will be no hazard in general, but no proving data available at the time of reporting.
OTHER CAUTIONS	: With regard to dust, the maximum permissible concentration and limits are fixed by OSHA and ACGIH.
OTHER CAUTIONS 2	: Formaldehyde will be generated when heated (for drying or melting) or burnt.
OTHER CAUTIONS 3	: Carcinogenicity class of formaldehyde, which may be generated if overheated.
	IARC (International Agency for Research on Cancer): Group 1
12. Ecological information	
BIODEGRADABILITY	: No finding.
BIOACCUMULATION	: No finding.
FISH TOXICITY	: No finding.
HAZARDS TO OZONE LAYER	: None
13. Disposal considerations	
WASTE FROM RESIDUES	: Dispose waste pellets through licensed wastes handlers or local autonomous bodies if they are handling waste disposal.
WASTE FROM RESIDUES 2	: When disposed by incineration, use the well-controlled incinerators in accordance with local & national regulations.
14. Transport information	
UN CLASSIFICATION NUMBER	: Not applicable
OTHER CAUTIONS	: Handle with care so as not to give damages to containers or not to be subjected to wetting.

OTHER CAUTIONS 2	: Secure the containers firmly so as not to cause collapsing.
15. Regulatory information	
TSCA INVENTORY	: All ingredients are listed on the TSCA inventory.
CA PROPOSITION 65	: None are listed.
16. Other information	
HANDLING OF THE DETAILS GIVEN ABOVE	: Details given above are based on references, information and data available at this moment, but no warranty can be made on exactness of these details. They are also prepared on the assumption that the product will be handled in a normal way. For special handling, adequate safety and environmental measures should be taken in respect to its applications. Our products are not specifically intended for implants for medical and dental applications, and therefore they are not recommended for such applications. "No finding" in this report means that there will be no hazard in general, but no proving data is available at the time of reporting.
WHERE TO CALL FOR FURTHER INFORMATION	: Polyplastics Co., Ltd. Quality Assurance Dept. Tel. No +81-3-6711-8605
DATE OF SDS PREPARATION	: March 17, 2015

*DURACON® is a registered trademark of Polyplastics Co., Ltd. in Japan and other countries.