

# SAFETY DATA SHEET(SDS)

Issued: April 24, 2019

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FileNo. 2102

## 1. Chemical Product & Company Identification

|                       |                                               |                  |
|-----------------------|-----------------------------------------------|------------------|
| CHEMICALPRODUCT NAME: | DURANEX®                                      | CRN7000GP ED3002 |
| 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:     | 03-6711-8605                                  |                  |
| FACSIMILE NUMBER      | 03-6711-8616                                  |                  |

## 2. Hazards identification

### [ GHS CLASSIFICATION ]

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical and Chemical Hazards | : • Flammable solids : Classification not possible<br>• Self-reactive substances and mixtures : Not applicable<br>• Pyrophoric solids : Not classified<br>• Self-heating substances and mixtures : Classification not possible<br>• Substances and mixtures, which in contact with water, emit flammable gases : Not classified<br>• Oxidizing solids : Not classified<br>• Corrosive to metal : Not classified |
| Health Hazards                | : • Carcinogeneses : Category 1B<br>• Specific target organ/systemic toxicity (Repeated exposure) : Category 2(Lung)                                                                                                                                                                                                                                                                                            |
| Environmental Hazards         | : Classification not possible                                                                                                                                                                                                                                                                                                                                                                                   |

### [ SYMBOL ]



### [ SIGNAL WORD ]

: Danger

### [ HAZARD STATEMENT ]

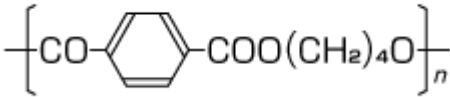
: • May cause cancer.  
• May cause damage to organs(Lung) through prolonged or repeated exposure.

### [ PRECAUTIONARY STATEMENTS ]

|            |                                                                                                                                                                                                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prevention | : • Obtain special instructions before use.<br>• Do not handle until all safety precautions have been read and understood.<br>• Wear protective gloves/protective clothing/eye protection/face protection.<br>• Do not breathe dust/fume/gas/mist/vapours/spray.<br>• Wash hands thoroughly after handling. |
| Response   | : • If exposed or concerned: Get medical advice/attention.<br>• Get medical advice/attention if you feel unwell.                                                                                                                                                                                            |
| Storage    | : • Store locked up.<br>• 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/MIXTURE           | : Mixture                                                                                                                    |
| COMMON CHEMICAL NAME        | : Polybutyleneterephthalate                                                                                                  |
| SYNONYMS                    | : Polybutyleneterephthalate(PBT)                                                                                             |
| INGREDIENTS AND COMPOSITION | : PBT $\geq 68.5\%$ , Diantimony trioxide $\leq 5\%$ ,<br>Carbon black $\leq 0.5\%$ , Flame retardant and others $\leq 26\%$ |

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHEMICAL FORMULA                              | :                                                                                                                                                                                                                                                                                                                   |
| SERIAL No. IN OFFICIAL GAZETTE                | : 7-1039(base resin) (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)                                                                                                                                                                                                                                                                                         |
| CAS No.                                       | : 24968-12-5(base resin)                                                                                                                                                                                                                                                                                                                                                                              |
| INGREDIENTS CONTRIBUTING TO THE HAZARD        | : Cadmium, lead, hexavalent chromium and mercury are not used in this grade.                                                                                                                                                                                                                                                                                                                          |
| <hr/>                                         |                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4. First-aid measures                         |                                                                                                                                                                                                                                                                                                                                                                                                       |
| INGESTION                                     | : 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. |
| SWALLOW                                       | : Help to vomit as much as possible. If sick feeling continues, ask a physician for advice.                                                                                                                                                                                                                                                                                                           |
| <hr/>                                         |                                                                                                                                                                                                                                                                                                                                                                                                       |
| 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 tetrahydrofuran, in addition to carbonic acid gas and water.                                                                                                                                                                                                                                                    |
| SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS | : In case the fire gained force, use a gas mask or other protective equipment.                                                                                                                                                                                                                                                                                                                        |
| <hr/>                                         |                                                                                                                                                                                                                                                                                                                                                                                                       |
| 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.                                                                                                                                                                                                                                                                                        |
| ENVIRONMENTAL PRECAUTION                      | : 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.                                                                                                                                                                                                                                  |
| <hr/>                                         |                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7. Handling and storage                       |                                                                                                                                                                                                                                                                                                                                                                                                       |
| HANDLING                                      | : Polybutyleneterephthalate resin in a pellet form will neither ignite nor explode at room temperatures.                                                                                                                                                                                                                                                                                              |
| HANDLING 2                                    | : This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.                                                                                                                                                                                                                                                                                                  |
| HANDLING 3                                    | : For molding work, effective means for local exhaust are required to discharge gases generated by melt processing.                                                                                                                                                                                                                                                                                   |
| HANDLING 4                                    | : Avoid inhaling of gases generated in molding work. Do not directly touch resin of high temperature.                                                                                                                                                                                                                                                                                                 |
| HANDLING 5                                    | : Avoid retaining hot resin in the processing machines for many hours.                                                                                                                                                                                                                                                                                                                                |
| STORAGE                                       | : Keep the substance away from any fire or heat sources for the                                                                                                                                                                                                                                                                                                                                       |



|                                           |                                                                                                                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | sake of safe storage.                                                                                                                                                                                                   |
| STORAGE 2                                 | : Handle in accordance with municipal rules and regulations.                                                                                                                                                            |
| RECOMMENDED PACKAGING MATERIALS           | : No information.                                                                                                                                                                                                       |
| <hr/>                                     |                                                                                                                                                                                                                         |
| 8. Exposure controls/ personal protection |                                                                                                                                                                                                                         |
| CONTROL CONCENTRATION                     | : None at present                                                                                                                                                                                                       |
| PERMISSIBLE CONCENTRATION                 | : OSHA PEL/1985<br>Max. permissible concentration of inactive powder 15mg/m <sup>3</sup><br>– ditto – (Aspiration ) 5 mg/m <sup>3</sup><br>ACGIH TLV/1992 1993<br>Exposure limit of the powder TWA 10 mg/m <sup>3</sup> |
| ENGINEERING MEASURE                       | : ·When handling dust: Use totally enclosed containers resisting dust explosion.<br>·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.                                                                                                                                                 |
| <hr/>                                     |                                                                                                                                                                                                                         |
| 9. Physical and chemical properties       |                                                                                                                                                                                                                         |
| APPEARANCE etc.                           | : Pellet                                                                                                                                                                                                                |
| BOILING POINT                             | : Not applicable                                                                                                                                                                                                        |
| VAPOUR PRESSURE                           | : Not applicable                                                                                                                                                                                                        |
| VOLATILITY                                | : Not applicable                                                                                                                                                                                                        |
| INITIAL BOILING POINT                     | : Not applicable                                                                                                                                                                                                        |
| SUBLIMATION                               | : None                                                                                                                                                                                                                  |
| MELTING POINT                             | : 224°C                                                                                                                                                                                                                 |
| DENSITY                                   | : 1.5                                                                                                                                                                                                                   |
| SOLUBILITY                                | : Insoluble in water                                                                                                                                                                                                    |
| FLASH POINT                               | : 300°C or higher                                                                                                                                                                                                       |
| IGNITION POINT                            | : 300°C or higher                                                                                                                                                                                                       |
| EXPLOSION PROPERTY                        | : Not applicable                                                                                                                                                                                                        |
| INFLAMMABILITY                            | : None                                                                                                                                                                                                                  |
| REACTIVITY WITH WATER                     | : None                                                                                                                                                                                                                  |
| OXIDIZABILITY                             | : None                                                                                                                                                                                                                  |
| SELF-REACTIVITY                           | : None                                                                                                                                                                                                                  |
| DUST EXPLOSIVENESS                        | : Upper explosion limit : Not applicable. Lower explosion limit : 35g/m <sup>3</sup>                                                                                                                                    |
| <hr/>                                     |                                                                                                                                                                                                                         |
| 10. Stability and reactivity              |                                                                                                                                                                                                                         |
| STABILITY AND REACTIVITY                  | : Stable for normal storage or handling.                                                                                                                                                                                |
| <hr/>                                     |                                                                                                                                                                                                                         |
| 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                          | : This product contains the substance that causes damage to lung and respiratory through prolonged or repeated exposure.(Sb)                                                                                            |
| CARCINOGENECITY                           | : This product contains the substance of carcinogenic category 1 in the GHS classification.(Sb)                                                                                                                         |
| MUTAGENECITY(Micro organisms,             | : No finding                                                                                                                                                                                                            |

chromosomal aberration)

REPRODUCTIVE TOXICITY

TERATOGENICITY

OTHERS(Including generation of hazardous gases by reaction with water, for example)

OTHER CAUTIONS

OTHER CAUTIONS 2

- : No finding
- : No finding
- : No finding in this report means that there will be no hazard in general, but no proving data available at the time of reporting.
- : With regard to dust, the maximum permissible concentration and limits are fixed by OSHA and ACGIH.
- : Toxicological information of Diantimony trioxide which is an ingredient is shown below. Toxicity of the ingredient does not appear as product for pellet. When dust is generated by cutting and sanding, toxicity appears. Avoid breathing dust and avoid generating dust.

[Diantimony trioxide]

Acute toxicity

Oral : Category 5

Dermal: No information

Inhalation: No information

Skin Corrosion/Irritation: No information

Eye Damage/Irritation: No information

Sensitization-Skin: No information

Germ Cell Mutagenicity: Not classified

Carcinogenicity: ACGIH A2; Suspected Human Carcinogen.

IARC 2B; Possible carcinogenic to humans.

Toxicity to Reproduction: Not classified

Specific Target Organ Toxicity(Single Exposure)

Judged as Category 2 about the respiratory organs when investigated with documents of CERI hazard data used in the judgement of GHS classification results by three Ministries. On the other hand, "Not Classified" is judged from documents shown by public comment. It is assumed to be "Category 2"(respiratory organs) from view point of disseminating the risk, because both vary in the category by useful data.

Specific Target Organ Toxicity(Repeated Exposure)

For human "Pneumonia was confirmed by chest X-rays examination." "Antimonial pneumoconiosis was seen, and pneumoconiosis was doubted." "The relations between chest X-ray image abnormality, the remaining in the antimonial lungs and the exposure period were reported." "Existence of the echymotic shadow of less than 1 mm in diameter and its accumulation to pulmonary middle lobe" (IRIS 2002)

For mammal: "The color change of the lungs was seen by the necropsy." "A particle component phagocyte, a denaturing phagocyte, alveolus intramural cell waste were observed." "Interstitial fibrosis, the enlargement of the alveolus epithelium cell and the hyperplasia" "Granuloma-like inflammation and granuloma"[IRIS(2002)] "Weight loss, interstitial fibrosis, enlargement of the alveolus epithelium cell and hyperplasia, cube and cylinder epithelium apparition, cholesterol rime"[CERI hazard data 2001-7 (2002)] In addition, the influence on mammals was seen in the range of a guidance level



|                                            |                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | <p>Category 1. The classification of the antimony compound is assumed to be Category 1(respiratory organs) as mentioned above.</p>                                                                                                                                                              |
| OTHER CAUTIONS 3                           | <p>Aspiration Hazard: No information</p>                                                                                                                                                                                                                                                        |
|                                            | <p>: Toxicological information of Carbon black which is an ingredient is shown below. Toxicity of the ingredient does not appear as product for pellet. When dust is generated by cutting and sanding, toxicity appears. Avoid breathing dust and avoid generating dust.<br/>[Carbon black]</p> |
|                                            | <p>Acute toxicity</p>                                                                                                                                                                                                                                                                           |
|                                            | <p>Oral: Rat LD50 15,400mg/kg GHS Not classified</p>                                                                                                                                                                                                                                            |
|                                            | <p>Dermal: No information</p>                                                                                                                                                                                                                                                                   |
|                                            | <p>Inhalation: No information</p>                                                                                                                                                                                                                                                               |
|                                            | <p>Skin Corrosion/Irritation: No information</p>                                                                                                                                                                                                                                                |
|                                            | <p>Eye Damage/Irritation: No information</p>                                                                                                                                                                                                                                                    |
|                                            | <p>Sensitization–Skin: No information</p>                                                                                                                                                                                                                                                       |
|                                            | <p>Germ Cell Mutagenicity: No information</p>                                                                                                                                                                                                                                                   |
|                                            | <p>Carcinogenicity: IARC 2B; Possible carcinogenic to humans.</p>                                                                                                                                                                                                                               |
|                                            | <p>Toxicity to Reproduction: No information</p>                                                                                                                                                                                                                                                 |
|                                            | <p>Specific Target Organ Toxicity(Single Exposure)</p>                                                                                                                                                                                                                                          |
|                                            | <p>No information</p>                                                                                                                                                                                                                                                                           |
|                                            | <p>Specific Target Organ Toxicity(Repeated Exposure)</p>                                                                                                                                                                                                                                        |
|                                            | <p>Category 1 based on the influence on lungs (the hyperplasia of the epithelium, pulmonary fiber symptom) in pneumoconiosis of human and a rat</p>                                                                                                                                             |
|                                            | <p>inhalational examination in the range of guidance level</p>                                                                                                                                                                                                                                  |
|                                            | <p>Category 1</p>                                                                                                                                                                                                                                                                               |
|                                            | <p>Aspiration Hazard: No information</p>                                                                                                                                                                                                                                                        |
| REMARKS                                    | <p>: Hazards information and so on result from the national</p>                                                                                                                                                                                                                                 |
|                                            | <p>classification of Diantimony trioxide and carbon black.</p>                                                                                                                                                                                                                                  |
| 12. Ecological information                 |                                                                                                                                                                                                                                                                                                 |
| BIODEGRADABILITY                           | : No finding                                                                                                                                                                                                                                                                                    |
| BIOACCUMULATION                            | : No finding                                                                                                                                                                                                                                                                                    |
| FISH TOXICITY                              | : No finding                                                                                                                                                                                                                                                                                    |
| HAZARDS TO OZONE LAYER                     | : None                                                                                                                                                                                                                                                                                          |
| 13. Disposal considerations                |                                                                                                                                                                                                                                                                                                 |
| WASTE FROM RESIDUES                        | : This is designated as waste plastics among industrial wastes by the Wastes Disposal Law. Disposal waste pellets through licensed wastes handlers or local autonomous bodies if they are handling wastes disposal.                                                                             |
| WASTE FROM RESIDUES 2                      | : When disposed by incineration, use the well controlled incinerators in accordance with the Wastes Disposal Law, Air Pollution Control Law and Water Pollution Prevention Law.                                                                                                                 |
| 14. Transport information                  |                                                                                                                                                                                                                                                                                                 |
| UN CLASSIFICATION NUMBER                   | : Not restricted for ICAO/IATA.                                                                                                                                                                                                                                                                 |
| 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                 |                                                                                                                                                                                                                                                                                                 |
| WASTE DISPOSAL LAW                         | : Waste plastics among industrial wastes.                                                                                                                                                                                                                                                       |
| LAW CONCERNING REPORTING,ETC.              | : Designated as Class I Designated Chemical Substances Cabinet order Annex 1 No.31.(antimony and its compounds; Government ordinance No.356, revised October 1 2009) The content of                                                                                                             |
| OF RELEASES TO THE ENVIRONMENT OF SPECIFIC |                                                                                                                                                                                                                                                                                                 |

CHEMICAL SUBSTANCES AND  
PROMOTING IMPROVEMENTS IN  
THEIR MANAGEMENT(PRTR)

chemical substance required by the law will be given in another  
sheet. You are required to submit the confidential agreement  
for this information.

Please take contact with our sales person for more detail.

INDUSTRIAL SAFETY AND HEALTH  
LAW

- : ·Designated as Cabinet order No.93 Annex 9 No.38.(Antimony and  
its compounds)  
·Designated as Cabinet order No.93 Annex 9 No.130.(Carbon  
black)

INDUSTRIAL SAFETY AND HEALTH  
LAW (ORDINANCE ON PREVENTION  
OF HAZARDS DUE TO SPECIFIED  
CHEMICAL SUBSTANCES)

- : Classified as Specified Chemical Substances, Control Group-2  
Substances and Specified Control Substances (Diantimony  
trioxide and its mixture containing more than 1wt% of Diantimony  
trioxide )

Exemption: Handling of resin pellets is exempted from this Act  
because it is considered as handling of the above-mentioned  
substances that are embedded in solid materials such as resins.

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16. Other information

HANDLING OF THE DETAILS GIVEN  
ABOVE

- : This SDS is the English version translated from the Japanese  
SDS which is prepared for domestic use. 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  
03-6711-8605

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