

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

A. GHS product identifier : PLA

B. Recommended use of the chemical and restrictions on use

Recommended use : plastic molded product manufacturing

Restrictions on use : Use for recommended use only

C. Supplier

Company name : Sindoh Co. Ltd. (brand name : fabWeaver)

Address : Seongsui-ro 24-gil, Seongdong-gu, Seoul, Republic of Korea

Emergency phone number : +82-1588-5850

Respondent : +82-2-460-1114

Fax : +82-2-466-0205

2. Hazards identification

A. GHS classification of the substance/mixture

Not classified

B. GHS label elements, including precautionary statements

Pictogram and symbol :

Not applicable

Signal word :

Not applicable

Hazard statements :

Not applicable

Precautionary statements

Precaution :

Not applicable

Treatment :

Not applicable

Storage :

Not applicable

Disposal :

Not applicable

C. GHS label elements, including precautionary statements

Not available

3. Composition/information on ingredients

Chemical Name	Common Name(Synonyms)	CAS number	EC number	Content (%)
(3R,6R)-3,6-Dimethyl-1,4-dioxane-2,5-dione polymer with rel-(3R,6S)-3,6-dimethyl-1,4-dioxane-2,5-dione and (3S,6S)-3,6-dimethyl-1,4-dioxane-2,5-dione	Poly lactide resin	9051-89-2	618-575-7	98
Calcium carbonate	-	471-34-1	207-439-9	2

4. First aid measures

A. Eye contact

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.
- Call a POISON CENTER/doctor/etc if you feel unwell.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel
- Get immediate medical advice/attention.

B. Skin contact

- If skin or hair contact occurs: Flush skin and hair with running water for at least 20 minutes. (and soap if available).
- Seek medical attention if you feel unwell or If skin irritation occurs.
- Wash contaminated clothing and shoes before reuse.
- Get immediate medical advice/attention.

C. Inhalation

- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Specific medical treatment is urgent.

D. Ingestion

- Do not let him/her eat anything, if unconscious.
- Get immediate medical advice/attention.

- Immediately give a glass of water.
- Call a POISON CENTER/doctor/etc if you feel unwell.

E. Indication of immediate medical attention and notes for physician

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Treat symptomatically.

5. Fire fighting measures

A. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media: Dry sand, water spray, dry chemical, regular foam, CO₂, BCF (where regulations permit)
- Unsuitable extinguishing media: High pressure water streams

B. Specific hazards arising from the chemical

- May be ignited by heat, sparks or flames.
- Combustible solid which burns but propagates flame with difficulty.
- Containers may explode when heated.
- Fire will produce irritating, corrosive and/or toxic gases.
- Inhalation of material may be harmful.
- Some liquids produce vapors that may cause dizziness or suffocation.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).

C. Special protective equipment and precautions for fire-fighters

- Move containers from fire area if you can do it without risk.
- Some may be transported hot.
- Runoff from fire control or dilution water may cause pollution.
- Contact may cause burns to skin and eyes.
- Dike fire-control water for later disposal; do not scatter the material.
- Prevent, by any means available, spillage from entering drains or water courses.
- In case of fire: Use personal protective equipment as required.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Alert Fire Brigade and tell them location and nature of hazard.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

- Eliminate all ignition sources.
- Stop leak if you can do it without risk.
- Please note that materials and conditions to avoid.

- Ventilate the area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Keep unnecessary and unprotected personnel from entering.
- Spills and leaks: Use personal protective equipment as required. (see Section 8.)

B. Environmental precautions and protective procedures

- Prevent entry into waterways, sewers, basements or confined areas.
- Avoid release to the environment.

C. The methods of purification and removal

- Large Spill; Dike far ahead of liquid spill for later disposal.
- Please note that materials and conditions to avoid.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
- Powder Spill; Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

7. Handling and storage

A. Precautions for safe handling

- Please note that materials and conditions to avoid.
- Wash the handling area thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Wear protective clothing when risk of exposure occurs.
- Be careful to high temperature.
- Do not handle until all safety precautions have been read and understood.
- Do not eat, drink or smoke when using this product.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Use carefully in handling/storage.
- Loosen closure cautiously before opening.
- Limit all unnecessary personal contact.
- Use only outdoors or in a well-ventilated area.
- Contact lenses may pose a special hazard
- A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

B. Conditions for safe storage

- Store in a closed container.
- Store in cool and dry place.
- Please note that materials and conditions to avoid.
- Keep away from food and drinking water.

- Store in original containers, polyethylene containers or polypropylene containers.
- Check all containers are clearly labelled and free from leaks.
- Store in a well-ventilated place. Keep container tightly closed.

8. Exposure controls/personal protection

A. Occupational Exposure limits

OSHA regulation :

- Calcium carbonate : TWA = 15 mg/m³ (total), 5 mg/m³ (resp)

NIOSH regulation :

- Calcium carbonate : TWA = 10 mg/m³ (total), 5 mg/m³ (resp)

ACGIH regulation : Not applicable

EU regulation : Not applicable

Biological exposure index : Not available

B. Appropriate engineering controls

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

C. Personal protective equipment

Respiratory protection :

- Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- In case exposed to particulate material, the respiratory protective equipment as follow are recommended; facepiece filtering respirator or air-purifying respirator, high-efficiency particulate air(HEPA) filter media or respirator equipped with powered fan, filter media of use(dust, mist, fume)
- In lack of oxygen(< 19.6%), wear the supplied-air respirator or self-contained breathing apparatus.

Eye protection :

- Wear breathable safety goggles(glasses) with side shields to protect from particulate material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.

Hand protection :

- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

Body protection :

- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

9. Physical and chemical properties

A. Appearance

Description : Solid

Color : Not available

- B. **Odor** : Not available
- C. **Odor threshold** : Not available
- D. **pH** : Not available
- E. **Melting point/freezing point** : Not available
- F. **Initial boiling point and boiling range** : Not available
- G. **Flash point** : Not available
- H. **Evaporation rate** : Not available
- I. **Flammability (solid, gas)** : Not available
- J. **Upper/lower flammability or explosive limits** : Not available
- K. **Vapor pressure** : Not available
- L. **Solubility (ies)** : Not available (Insoluble in water)
- M. **Vapor density** : Not available
- N. **Specific gravity** : 1.24 g/cm³
- O. **Partition coefficient: n-octanol/water** : Not available
- P. **Auto ignition temperature** : Not available
- Q. **Decomposition temperature** : Not available
- R. **Viscosity** : Not applicable
- S. **Molecular weight** : Not available
- T. **Others** :
 - **Volatile Component (% vol)** : Not available
 - **Print Temp.** : 205-225 °C
 - **Bed Temp.** : 25-70 °C
 - **Heat Distortion Temp.** : 52 °C (at 0.45MPa)
 - **Melt Flow Index** : 2 g/10min (at 190°C / 2.16kg)
 - **Tensile Strength** : 60 MPa
 - **Elongation at Break** : 29 %
 - **Flexural Strength** : 87 MPa
 - **Flexural Modulus** : 3,642 MPa
 - **IZOD Impact Strength** : 7 kJ/m²

10. Stability and reactivity

A. Chemical stability and Possibility of hazardous reactions

- Containers may explode when heated.
- Fire will produce irritating, corrosive and/or toxic gases.
- Inhalation of material may be harmful.
- Some liquids produce vapors that may cause dizziness or suffocation.

B. Conditions to avoid

- Ignition sources (heat, sparks or flames)

C. Incompatible materials

- Flammable material

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc.as ignition may result

D. Hazardous decomposition products

- Irritating and/or toxic gases

11. Toxicological information

A. Information of Health Hazardous

Acute toxicity

Oral : Not available

Dermal : Not available

Inhalation : Not available

Skin corrosion/ irritation : Not available

Serious eye damage/ irritation : Not available

Respiratory sensitization : Not available

Skin sensitization : Not available

Carcinogenicity : Not available

- IARC, ACGIH, OSHA, NTP, EU CLP: Not listed

Mutagenicity : Not available

Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : Not available

Specific target organ toxicity (repeat exposure) : Not available

Aspiration Hazard : Not available

12. Ecological information

A. Ecological toxicity

- **Acute toxicity** : Not available

Fish : Not available

Crustacean : Not available

Algae : Not available

- **Chronic toxicity** : Not available

Fish : Not available

Crustacean : Not available

Algae : Not available

B. Persistence and degradability

Persistence :

- Calcium carbonate : Low

Degradability : Not available

C. Bioaccumulative potential

Bioaccumulation :

- Calcium carbonate : Low

Biodegradation : Not available

D. Mobility in soil :

- Calcium carbonate : Low

E. Other hazardous effect : Not available

F. Hazardous to the ozone layer : Not available

13. Disposal considerations

A. Disposal method :

- Waste must be disposed of in accordance with federal, state and local environmental control regulations.

- This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

B. Disposal precaution :

- Dispose of contents/container in accordance with relevant regulation.

14. Transport information

A. UN Number : Not applicable

B. UN Proper shipping name : Not applicable

C. Transport Hazard class : Not applicable

D. Packing group : Not applicable

E. Environmental hazards : No

F. Special precautions

in case of fire : Not applicable

in case of leakage : Not applicable

15. Regulatory information

U.S.A Regulatory information

A. U.S.A Inventory (TSCA) :

- Calcium carbonate : Present (ACTIVE)

- (3R,6R)-3,6-Dimethyl-1,4-dioxane-2,5-dione polymer with rel-(3R,6S)-3,6-dimethyl-1,4-dioxane-2,5-dione and (3S,6S)-3,6-dimethyl-1,4-dioxane-2,5-dione: Present (ACTIVE)

- B. U.S.A management information (OSHA Regulation) :** Not regulated
- C. U.S.A management information (CERCLA Regulation) :** Not regulated
- D. U.S.A management information (EPCRA 302 Regulation) :** Not regulated
- E. U.S.A management information (EPCRA 304 Regulation) :** Not regulated
- F. U.S.A management information (EPCRA 313 Regulation) :** Not regulated

EU Regulatory information

A. Authorisations and/or restrictions on use:

- **Authorisations:** Not regulated
- **Restrictions on use:** Not regulated

B. Other EU regulations:

- **SVHC list :** Not regulated
- **Harmonized classification – Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation):** Not available

Other regulations:

Substance of Rotterdam Convention : Not regulated

Substance of Stockholm Convention : Not regulated

Substance of Montreal Protocol : Not regulated

16. Other information

A. Information source and references :

Safety Data sheet provided by Shenzhen Esun Industrial Co., Ltd.

UN Recommendations on the transport of dangerous goods 17th;

https://www.unece.org/trans/danger/publi/unrec/rev20/20files_e.html

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans;

<http://monographs.iarc.fr>

National Toxicology Program;

<https://ntp.niehs.nih.gov/whatwestudy/assessments/cancer/roc/index.html>

TOMES-LOLI®; <http://www.rightanswerknowledge.com/loginRA.asp>

Korea Occupational Health & Safety Agency; <http://www.kosha.or.kr>

National Chemicals Information System; <http://ncis.nier.go.kr/main.do>

Ministry of Public Safety and Security-Korea dangerous material inventory management system; <http://hazmat.mpss.kfi.or.kr/index.do>

Waste Control Act enforcement regulation attached [1]

B. Issuing date : February 24, 2022

C. Revision number and date

revision number : Rev.(00)

date of the latest revision : February 24, 2022

D. Others :

- The content is based on the latest information and knowledge that we currently possess.
- This SDS was authored to aid buyer, processor or any other third person who handles the chemical of subject in the SDS; additionally, it does not warrant suitability of the chemical for special purposes or the commercial use of statements that approves the use of it in combination with other chemicals as well as technical or legal liabilities.
- The content of the SDS may vary depending on the country or the region and may not coincide with the actual regulations. Therefore, the buyer or the processor of the chemical is responsible for observing responsible government's or the region's regulations.