

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : BIONEX TX-400 Bio-compostable compound

Product code : TX-400

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Manufacture of plastics products, including compounding and conversion.

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Unique Polymer Co., Ltd

282 Moo 2 Pharaek Sa Mai , Mueang Samut Prakan , Samut Prakan 10280

Tel.(+66)02-116-3138

Website: Unique-polymer.com

1.4. Emergency telephone number

Not applicable

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

No hazardous effects known.

2.2. Label elements

there is no labelling obligation.

2.3. Other hazards

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

PBAT, PLA, tapioca starch, glycerol and additives.

3.2. Mixtures

Not applicable.

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical advice.
- First-aid measures after inhalation : Not expected to present a significant inhalation hazard under normal use. Remove victim to fresh air and keep warm and at rest. Obtain medical attention if breathing difficulty persists.
- First-aid measures after skin contact : Following contact with the melted product, quickly cool affected skin area with water.
- First-aid measures after eye contact : Not expected to cause irritation under normal use. If eye irritation persists, consult a specialist.
- First-aid measures after ingestion : Avoid ingestion of product. Suggest to induce vomiting and no special attention needed.

4.2. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry extinguishing powder. Foam. Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Fire hazard : Thermal decomposition can lead to the escape of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide. Gas/ vapors, toxic.

5.3. Advice for firefighters

Use full protective clothing for chemicals and self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Evacuate all unnecessary personnel to a safe and ventilated location.

6.1.2. For emergency responders

Avoid ignition sources. Avoid contact with skin, eyes and clothing by working with hot material.

6.2. Environmental precautions

Do not allow uncontrolled leakage of product into the environment.

6.3. Methods and material for containment and cleaning up

Remove mechanically, placing in appropriate containers for disposal. Handle contaminated packaging in the same way as the product itself.

6.4. Reference to other sections

No additional information available.

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid generation of dust. Provide adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. When using do not eat, drink or smoke. Wash hands before breaks and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities

Storage area : Keep container tightly closed and dry.

Special rules on packaging : Keep/Store only in original container.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Not applicable.

8.2. Exposure controls

Appropriate engineering controls : If suction of the immediate vicinity is impossible or insufficient, the entire working place must be sufficiently ventilated using appropriate machines.

Hand protection : Wear suitable gloves.

Eye protection : Wear eye/face protection.

Skin and body protection : Only wear fitting, comfortable and clean protective clothing.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granules
Colour	: Yellowish brown
Odour	: Slightly sweet starch smell
Odour threshold	: Not applicable
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: Not applicable
Melting point	: No data available
Freezing point	: No data available

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



Boiling point	: Decomposes before boiling
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: Not applicable
Relative vapour density at 20 °C	: Not applicable
Relative density	: No data available
Relative gas density	: not applicable
Solubility	: Water: partially soluble
Log Pow	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Not applicable.
Oxidizing properties	: Not applicable.
Explosive limits	: No data available

9.2. Other information

Minimum ignition energy	: Not applicable
SADT	: Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal conditions.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

10.5. Incompatible materials

None known.

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



10.6. Hazardous decomposition products

In case of fire: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
	pH: not applicable
Serious eye damage/irritation	: Not classified
	pH: not applicable
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Disposal considerations

12.1. Waste treatment methods

Regional legislation (waste)	: Comply with local regulations for disposal.
Waste disposal recommendations	: Do not empty into drains; dispose of this material and its container in a safe way. Handle contaminated packaging in the same way as the product itself.

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



SECTION 13: Transport information

In accordance with ADR / RID / IMDG / IATA

13.1. UN number

UN-No. : Not applicable

UN-No. (IMDG) : Not applicable

UN-No. (IATA) : Not applicable

UN-No. (ADN) : Not applicable

UN-No. (RID) : Not applicable

13.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

13.3. Transport hazard class(es)

Not applicable.

13.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

13.5. Environmental hazards

Not applicable.

13.6. Special precautions for user

- Overland transport

No data available.

- Transport by sea

No data available.

- Air transport

No data available.

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



- Inland waterway transport

No data available

- Rail transport

No data available.

13.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

SECTION 14: Regulatory information

14.1. Chemical safety assessment

No additional information available.

SECTION 15: Other information

Abbreviations and acronyms:

REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation (EC) No 1907/2006
SVHC	Substance of very high concern
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("MARPOL" is short for marine pollution and 73/78 short for the years 1973 and 1978.)
IBC	The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
OSHA	Occupational Safety & Health Administration
TWA	Time Weighted Average
STEL	Occupational Exposure Limits - Short Term Exposure Limits (STELs)
ACGIH	American Conference of Government Industrial Hygienists
TLV	Threshold Limit Value
IARC	International Agency for Research on Cancer

TX-400 Bio-compostable compound

Safety Data Sheet

Revision date: 17/01/2021
Version: 1.0



Full text of H- and EUH-statements:

Aquatic Acute 1 Hazardous to the aquatic environment — Acute Hazard, Category 1

Aquatic Chronic 1 Hazardous to the aquatic environment — Chronic Hazard, Category 1

To the best of our knowledge, the information contained in this statement is accurate and reliable as of the date of publication. The information relates only to the product specifically identified in this document when not used in combination with any other products or materials. Unique Polymer makes no warranties, express or implied, and assumes no liability in connection with any use of this information.

Upon sale of Unique Polymer products, Unique Polymer warrants that the products conform to the applicable written specifications at the time the products are shipped from Unique Polymer facility. All other express or implied warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose, are disclaimed.

Purchaser acknowledges that it has sole control and responsibility to ensure, on a continuing basis, that the products and any method of use or application of the products are suitable for its purposes. Any assistance provided by Unique Polymer to purchaser relative to the product, including without limitation, formulation, manufacturing and testing for the use or application of the products for purchaser's purposes, is made without any express or implied warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose.

Unique Polymer will not be liable for consequential or indirect damages and purchaser's exclusive remedy for claims (including claims for breach of warranty, negligence and strict liability) is limited to the replacement of the non-conforming products or the refund of the purchase price of the non-conforming products or, with regard to services, to re-process purchaser's materials.