



Product name: Easy-graft  
Product description: Supports Bone Regeneration

According to EC Directive 91/155/EEC

## 1. Product and Company Information

### *Identification of the product*

Product name: easy-graft

Product description: Granules: poly(lacide-co-glycolide) coated  $\beta$ -tri-calcium phosphate granules  
BioLinker: Contains max. 85 % w/w N-methyl-2-pyrrolidone (NMP)

### *Company identification*

Company: Degradable Solutions AG, 8952 Schlieren, Switzerland,  
Phone: +41 (0)43 433 62 00

Emergency Phone: +41 (0)44 251 51 51 (Toxicological Information Center, Switzerland)

## 2. Composition/Information on Ingredients

### *Composition*

Granules: Approx. 90% w/w  $\beta$ -tri-calcium phosphate (TCP); 10% w/w poly(lacide-co-glycolide) (PLGA)

BioLinker: Contains max. 85 % w/w N-methyl-2-pyrrolidone (NMP)

M: 310.18 g/mol (TCP), n/a (PLGA), 99.13 g/mol (NMP)

CAS-Nr.: 7758-87-4 (TCP), 26780-50-7 (PLGA), 872-50-4 (NMP)

EC-No.: 231-840-8 (TCP), - (PLGA), 212-828-1(NMP)

Formula Hill: Ca<sub>3</sub>O<sub>8</sub>P<sub>2</sub> (TCP), n/a (PLGA), C<sub>5</sub>H<sub>9</sub>NO (NMP)

## 3. Hazards Identification

Granules: Not hazardous according to directive 67/548/EEC.

BioLinker: Xi, R36/38

### *Risk advice to man and the environment*

Irritating to eyes and skin.

## 4. First Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

After Inhalation: Move to fresh air. If breathing becomes difficult, call a physician.

After skin contact: Wash off with plenty of water. Consult a physician.

After eye contact: Rinse thoroughly with plenty of water. Consult a physician.

After swallowing: Rinse mouth with water if person is conscious. Consult a physician.



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## 5. Fire-fighting Measures

### *Suitable extinguishing media*

Water spray, carbon dioxide, dry chemical powder or appropriate foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### *Special risks*

Emits toxic fumes under fire conditions.

### *Special protective equipment for fire-fighters*

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. Accidental Release Measures

### *Personal precautions*

Wear respiratory protection. Avoid breathing vapours, mist, gas or dust. Ensure adequate ventilation.

### *Environmental precautions*

Do not let product enter drains.

### *Procedures for cleaning up*

Soak up with inert absorbent material or take up dry and dispose of as hazardous waste. Clean up affected area.

## 7. Handling and Storage

Handling: Avoid inhalation. Avoid contact with eyes, skin and clothing.

Storage: Store in cool place. Keep tightly closed and dry. Avoid direct sunlight.



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## 8. Exposure Controls / Personal Protection

### *Personal protective equipment*

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing should be ascertained with the respective supplier.

Respiratory protection: required when dust or vapour is generated.

Eye protection: Safety glasses.

Hand protection: Gloves. Permeation level  $\geq 6$ ; appropriate material: Butylkautschuk 0.7 mm thick.

Skin and body Protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene: Wash thoroughly after handling

## 9. Physical and Chemical Properties

Form: Granule: Solid / round to roundish

BioLinker: Liquid

Colour: Granules: White to whitish

BioLinker: Colourless to yellowish

pH value: n/a

Melting point BioLinker: -24°C, Granules: n/a

Boiling point BioLinker: 202°C (1.013 hPa), 78-79°C (16 hPa), Granules: n/a

Ignition temperature n/a

Flash point n/a

Explosion limits lower: n/a  
upper: n/a

Density n/a

Water solubility n/a

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## 10. Stability and Reactivity

### *Conditions to avoid*

Sensitive to moisture. Stable under recommended storage conditions.

### *Materials to avoid*

Strong acids, strong oxidizing agents.

### *Hazardous decomposition products formed under fire conditions*

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), phosphorous oxides, phosphine oxides.

## 11. Toxicological Information

Acute toxicity: Quantitative data on the acute toxicity of this product are not available.

Sensitization: No data available.

Chronic exposure: No data available.

### *Signs and Symptoms of exposure*

Prolonged or repeated exposure can cause: gastrointestinal disturbances, nausea, vomiting and headache. No physical effects are to be expected with intended use.

### *Potential health effects*

Inhalation: May be harmful if inhaled. May cause respiratory tract information.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

## 12. Ecological Information

### *Ecotoxic effects*

Quantitative data on the ecotoxic effects of this product are not available.

Toxicity to fish: NMP: LC50 – other fish - 4.000 mg/l – 96 h

NMP: LC50 – Leuciscus idus (Golden orfe) - 500 mg/l – 96 h

Toxicity to daphnia:  
and other aquatic  
invertebrates: NMP: EC50 – Daphnia magna (Water flea) - 1.000 mg/l – 24 h

Toxicity to bacteria: NMP: LC50 – Bacteria - 9.000 mg/l

Elimination information: NMP: Readily biodegradable

No ecological problems are to be expected when the product is handled and used with due care and attention. Avoid contamination of drains, waters, and soil.



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### 13. Disposal Considerations

*Product*

There are no uniform regulations for the disposal of chemicals and waste material in the EC. Any chemical waste material is usually to be handled as hazardous waste. Observe all federal, state, and local environmental regulations.

*Contaminated packaging*

Dispose of as unused product.

### 14. Transport Information

Not dangerous goods for road, sea, and air transport (ADR/RID, IMDG, IATA).

### 15. Regulatory Information

Labelling according to EC Directives: EC Label

Symbol:	Xi	Irritant (BioLinker)
R-phrases:	R36/38	Irritating to eyes and skin (BioLinker)
S- phrases:	2	Keep out of reach for children
	24	In case of fire and/or explosion do not breath fumes

### 16. Other Information

*Further information*

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information contained herein is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Degradable Solutions AG shall not be held liable for any damage resulting from handling or from contact with the above product.