


**MATERIAL SAFETY DATA SHEET**

According to Regulation (EC) No. 1907/2006 and No. 1272/2008

Version #1 of 25/01/2015

GENERIC EU MSDS – NO COUNTRY SPECIFIC DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1 Product identifiers**

Product name	BIO-PROTAN® Microfoliar PWD
Product number	1128
Brand of	Protan AG
REACH No.	A registration number is not available for this substance as the substance or its uses are exempt from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**1.2 Relevant identified uses of the substance or mixture / uses advised against**

Identified uses:	Industrial manufacturing (all) [SU3]. Agriculture, forestry, fishery [SU1]
Uses advised against:	Do not use for purposes other than those listed

**1.3 Details of the supplier of the safety data sheet**

Company	Protan Aktiengesellschaft, Runkelstrasse 38, LI-9495 Triesen
Phone	+423 375 15 25
Fax	+423 375 15 26
Email address	<a href="mailto:info@protan.li">info@protan.li</a>

**1.4 Emergency telephone number**

Protan AG	+423 375 15 25 (working hours)
Poison emergency call (24h)	+41 (0)44 251 51 51 or 145 (Centre Suisse d'Information Toxicologique) From Switzerland call tel. 145 +49 (0)30 19240 (Gift-Notruf Berlin, 24 hours, language EN and DE)

**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture**

The product is classified as hazardous according to the provisions of Regulation (EC) 1272/2008 (CLP/GHS) and subsequent amendments. The product requires a safety data sheet in compliance with the provisions of Regulation (EC) 1907/2006 and subsequent amendments.


Further information on the risks to health and/or the environment are available in sections 11 and 12 of this Material Safety Data sheet.

**2.1.1. Regulation 1272/2008/EC (CLP) and subsequent amendments**

Classification and hazard indication	Eye Dam. 1	H318
Refer to paragraph 16 for full text of risk phrases and hazard statements	Aquatic Chronic 2	H411

**2.2 Label elements**

Labelling in accordance with Regulation 1272/2008/EC (CLP) and subsequent amendments:

Hazard pictogram(s)		
Signal word	Danger	
Hazard statement(s)	H318	Causes serious eye damage.
Physical Hazards (H2XX)	H411	Toxic to aquatic life with long lasting effects.
Health Hazards (H3XX)		
Environmental Hazards (H4XX)		
Precautionary statement(s):	P273	Avoid release to the environment.



P280	Wear protective gloves/protective clothing/ eye protection/ face protection
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P391	Collect spillage.
P501	Dispose of contents/container in accordance with regional regulations.

**2.3 Other hazards**

PBT/ vPvB criteria:	No PBT and vPvB assessment has been conducted according to Annex XIII of Regulation (EC) No 1907/2006.
Other hazards:	None known.

**SECTION 3: Composition/Information on ingredients**
**3.1 Substances**

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**3.2 Mixture**

Natural polymer (amino acids and peptides) modified by chemical hydrolysis and mixed with iron sulphate, zinc sulphate, manganese sulphate.

Type of formulation: water-soluble powder fertilizer.

Chemical name	CAS no.	EC no.	Index no.	Classification (Reg. EC 1272/2008)	Content (%w/w)
Iron (II) Sulphate Heptahydrate	7782-63-0	231-753-5	026-003-01-4	GHS07: Acute tox.4, H302; Eye Irrit. 2, H319; Skin Irrit. 2, H315	≤ 21%
Zinc Sulphate Heptahydrate	7732-18-5	231-793-3	030-006-00-9	GHS05: Eye Dam. 1, H318; GHS07: Acute tox.4, H302; GHS09: Aquatic Acute 1, H400; Aquatic Chronic 1, H410	≤ 19%
Manganese (II) Sulphate Monohydrate	10034-96-5	232-089-9	025-003-00-4	GHS05: Eye Dam. 1, H318; GHS08: STOT RE 2, H373; GHS09: Aquatic Chronic 2, H411,	≤ 13%

Refer to paragraph 16 for full text of risk phrases and hazard statements

**SECTION 4: First aid measures**
**4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance
If inhaled	If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a doctor.
In case of skin contact	Take off contaminated clothing. Wash off with soap and plenty of running water the areas of body that may have been exposed to the product. Wash clothing before reuse. Get medical advice/attention if you feel unwell.
In case of eye contact	Rinse eyes thoroughly with running water, keeping eyelids open for min 15 minutes. Remove contact lenses. Protect eyes with dry sterile gauze and seek medical advice.



If swallowed/ingested

Rinse mouth with plenty of water. Drink plenty of water. Seek medical advice/call poison centre if feeling unwell and/or swallowed in great quantity. Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are also described in section 2.2 (labelling) and section 11.

If inhaled

May cause irritation of the nasal mucosa, throat and lungs.

In case of skin contact

Prolonged contact with the skin can cause irritation.

In case of eye contact

Strong eye irritation up to eye damage, eye redness, lachrymation.

If swallowed/ingested

Ingestion may cause gastrointestinal irritation, nausea, vomiting, diarrhoea.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Symptoms may appear after several hours; therefore, the supervision of a physician within 48 hours after the accident is necessary.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Use water spray, CO<sub>2</sub>, alcohol resistant foam, dry chemical, depending on the materials involved in the fire.

#### 5.2 Special hazards arising from the substance or mixture

No direct fire and explosion hazard. Product is not reactive and not flammable. Can emit toxic fumes if involved in a fire: carbon oxide and nitrous vapours, ammonia, sulphur oxides (SO<sub>x</sub>), fumes with metal oxides (see section 10). Possible release of hydrochloric acid (HCl). Do not breathe-in combustion products.

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and suitable protective clothing.

#### 5.4 Further information

Collect extinguishing water and do not discharge into drains. Dispose of contaminated fire extinction water and fire remains according to applicable national and local regulations (see section 2.2).

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

General advise:

Always ensure your own safety first. Use proper equipment as indicated in section 8.

For non-emergency personal

Follow safety precautions and act according to the rules of hygiene and good industrial practice. Avoid contact with eyes, product dust and mist!

For emergency responders

Wear gloves, protective clothing and respiratory protection. Avoid contact with eyes and skin. When exposure is prolonged and the concentration in the air is high, wear goggles and filter mask class FFP3. Evacuate the danger area. In case of fire, wear respiratory protection and eliminate all unguarded flames and sources of ignition.

#### 6.2 Environmental precautions

Contains Zinc Sulphate Heptahydrate and Manganese (II) Sulphate Monohydrate toxic to aquatic life with long lasting effects. Avoid release to the environment. Collect spillage as much as possible for re-use and limit the area of shedding. Do not let product enter drains, sewers, surface water, ground water. If the product has entered a



watercourse in sewers or has contaminated soil or vegetation, notify it to the authorities.

### 6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Recover the product for removal or re-use. Keep in suitable, labelled and closed container/bags for disposal in accordance with regulations.

### 6.4 Reference to other sections

For emergency contact info	see section 1
For personal protection	see section 8
For waste disposal	see section 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures/precautions	Refer to section 8 for personal protection. Avoid contact with eyes, skin and clothing and avoid inhalation of product dust. When diluting, always stir the product into standing water.
General occupation hygiene	Handle in accordance with good industrial hygiene practice and observing general safety regulations for handling chemicals: Do not eat, drink or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Technical measures/storage conditions:	Normal storage conditions without particular incompatibilities. Keep <u>dry</u> in <u>closed</u> original packaging. Do not store in open or unlabelled packaging. Avoid possibility of bag falls or handling damages.
Storage compatibility:	Store separately from food and animal feed.
Additional disclosures on stock conditions:	Store in a cool, dry and well-ventilated place.
Storage class	Non combustible powder.
Classification according Regulation 2009/104/EEC	-

### 7.3 Specific end use(s)

Fertilizer. No other specific uses are stipulated apart from the uses mentioned in section 1.2

## SECTION 8: Exposure controls/personal protection


### 8.1 Control parameters

Apply general workplace control parameters. No further information apart from section 7.

### 8.2 Exposure controls/personal protection

Appropriate engineering controls	Handle in accordance with good industrial hygiene practice and the usual precautionary measures for handling chemicals. As the use of adequate technical equipment must always take priority over personal protection equipment, ensure good ventilation in the workplace through effective local aspiration or ventilation.
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Personal protective equipment:	See product label for hazard details. Avoid contact with eyes and skin. Do not breathe in product dust and mist. An eyewash facility and a safety shower for facilities storing or utilizing this material is good industrial practice.
	
- Eye/face protection	Safety glasses with side shield strictly recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Face shield recommended for long-term exposure, depending from concentration of dangerous substance at the specific workplace.
- Hand protection	Product handling requires the use of chemical resistant gloves. For full and splash contact we advise the use of impermeable "Nitrile, PVC or Neoprene Rubber Gloves (NBR)", minimum layer thickness of 0.11 mm. Break through time: 480 min. Inspect gloves prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- Skin and body protection	Dust proof work clothing.
- Respiratory protection	We recommend the use of a full-face particle/dust respirator type N100 (US) or type P3 (EN 143). Use FFP3 respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure	Minimize product release in the environment.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance, form	powder	Vapour pressure	not determined
Appearance, colour	greyish	Vapour density	not determined
Odour	undefined	Relative density	350 - 400 kg/m <sup>3</sup>
Odour threshold	not applicable	Water solubility(ies)	soluble
pH value at 20°C (1:10)	4 - 5	Partition coefficient: n-octanol/water	not determined
Melting point	not determined	Auto-ignition temperature	not determined
Freezing point	- 2 °C	Decomposition temperature	not determined
Initial boiling point and boiling range	not determined	Viscosity (dynamic at 20°C)	not determined
Flash point	not applicable	Explosive properties	not determined
Evaporation rate	not applicable	Oxidising properties	not determined
Flammability (solid, gas)	not self-igniting	Vapour pressure	not determined
Upper/lower flammability or explosive limits	not explosive		



**9.2 Other safety information**

No further relevant information available.

**SECTION 10: Stability and reactivity**
**10.1 Reactivity**

The product is stable and not reactive if handled according to the advised recommendations of use.

**10.2 Chemical stability**

Stable under recommended storage conditions (see section 7, handling and storage).

**10.3 Possibility of hazardous reactions**

To our knowledge, the product does not present particular risk under normal conditions of use. For further information, refer also to section 10.5.

**10.4 Conditions to avoid**

Avoid moist warehousing conditions. Close packaging after use.

**10.5 Incompatible materials**

With strong oxidant agents like oxidants mineral acids, organic peroxides, organic water peroxides, elementary metals, exothermic reactions can occur. Combination with strong reducing agents develops hydrogen. Avoid the mixture with strong acids. Apply cautiously in combination with copper, mineral oil based products and sulphur products.

**10.6 Hazardous decomposition products**

In the event of fire, refer to section 5.

**SECTION 11: Toxicological information**
**11.1 Information on toxicological effects**
**Acute toxicity:**

Acute oral toxicity: Data not available. Predictably not relevant.

Acute dermal toxicity: The product classification is toxic. It causes dermal irritation, nausea, vomiting, diarrhoea.

Acute inhalation toxicity: Data not available. Predictably not relevant.

**Local effects:**

Skin irritation: Data not available. Predictably not relevant.

Eye irritation: The product classification is corrosive. It causes significant irritations and possible damage in contact with eyes.

Skin sensitisation: Data not available. Predictably not relevant.

**Other:**

Sub-acute toxicity: Data not available.

Mutagenicity: Data not available.

Reproductive toxicity: Data not available.

Carcinogenicity: Data not available.



**SECTION 12: Ecological information**
**12.1 Toxicity**

The product is a fertilizer and does not cause adverse effects in the environment if handled according to the advised dosages and recommendations of use. Low concentrations discharged correctly into adapted biological sewage treatment plants do not interfere with degradation activity of activated sludge. Handle according to good industrial hygiene practice. Avoid dispersal in the environment. Inform competent authorities in case of contamination of waterways, sewers, soil or vegetation. Further data regarding the aquatic toxicity are not available.

**12.2 Persistence and degradability**

No data available

**12.3 Bio accumulative potential**

No data available.

**12.4 Mobility in the soil**

Prevent the penetration of concentrated product in the soil and the dispersion in surface waters without proper biological treatment of wastewater.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not carried out.

**12.6 Other adverse effects**

No data available.

**SECTION 13: Disposal considerations**
**13.1 Waste treatment methods**

Unused product

Recover if possible. Dispose of surplus and non-recyclable solutions by a licensed disposal company following the national and local regulations. Handle in accordance with good industrial hygiene practice and the usual precautionary measures for handling chemicals.

Contaminated packaging

Dispose of as unused product.

**SECTION 14: Transport information**
**14.1 UN number**

ADR/RID: 3077

IMDG: 3077

IATA: 3077

**14.2 UN proper shipping name**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, N.O.S. (manganese sulphate, zinc sulphate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, N.O.S. (manganese sulphate, zinc sulphate)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, N.O.S. (manganese sulphate, zinc sulphate)

**14.3 Transport hazard class(es)**

ADR/RID: 9

IMDG: 9

IATA: 9

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III



**14.5 Environmental hazards**

ADR/RID: yes

IMDG: Marine pollutant: yes

IATA: 9

**14.6 Special precautions for users**
**Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packaging and combination packaging containing inner packaging with dangerous goods > 5L for liquids or > 5kg for solids.

**SECTION 15: Regulatory information**

Hazardous substance or mixture according to Regulation (EC) No. 1272/2008 (Regulation on classification, labelling and packaging of substances and mixtures).

BIO-PROTAN® Microfoliar PWD is produced and marketed according to the following regulations:

Regulation (EC) No. 1069/2009 laying down health rules concerning animal by-products not intended for human consumption and Regulation (EC) No. 889/2008 laying down detailed rules for the implementation of Regulation (EC) No. 834/2007 (Organic production and labelling of organic products with regard to organic production, labelling and controls).

This safety data sheet complies with the requirements of Article 31 of EC Regulation 1907/2006/EC (REACH regulation) and the information contained herein is displayed in the order prescribed in Annex II to that regulation as amended in the year 2010 (435/2010/EC).

The purpose of this safety data sheet is to facilitate the carrying out of a risk assessment. We remind employers of their duty to carry out such an assessment and subsequently to provide an appropriate working environment. It is the employer's duty to procure all necessary personal protective equipment and ensure that all workers handling the product use such equipment.

**15.1 Safety, health, and environmental regulation specific for the substance or mixture**

Restrictions in relation to the product or contained substances pursuant to Annex XVII to Regulation (CE) 1907/2006

None

Substances in candidate list (Art 59 REACH)

None

Substances subject to authorization (Annex XIV)

None

Sanitary control

Workers exposed to chemicals are subject to the control of health authorities following the national and local regulations.

**15.2 Chemical safety assessment**

No chemical safety assessment required or carried out by the supplier of the product.

**SECTION 16: Other information**

Changes since last issue

New release.

Safety data sheet contact person

Protan AG, Christian DOBERS, phone no. +423 375 15 25

General bibliography

Regulation (EC) 453/2010/EC of the European Parliament amending Regulation 1907/2006/EC (REACH)  
 Regulation (EC) 1107/2009 (CLP)  
 Regulation (EC) 790/2009 (I apt. CLP)  
 Regulation (EC) 1272/2008 (CPL/GHS)  
 Safety Data Sheets provided by suppliers of component substances.





Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
 RID: Regulations Concerning the International Transport of Dangerous Goods by Rail  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 ICAO: International Civil Aviation Organization  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 RTECS: Registry of Toxic Effects of Chemical Substances  
 REACH: Registration, Evaluation, and Authorisation of Chemicals  
 CLP: Classification, Labelling and Packaging

Description of Hazard statements (H-phrases) set out in SECTION 2-3

STOT RE 2 = Specific Target Organ Toxicity / repeated exposure / cat. 2  
 Acute Tox.4 = Acute Toxicity, category 4  
 Aquatic acute 1 = Hazardous to the aquatic environment / acute / cat. 1  
 Aquatic chronic 1 = Hazardous to the aquatic environment / chronic / cat. 1  
 Aquatic chronic 2 = Hazardous to the aquatic environment / chronic / cat. 2  
 Eye Dam. 1 = Eye damage, cat. 1  
 Eye Irrit. 2 = Serious eye irritation / category 2  
 Skin Irrit. 2 = Skin irritation / category 2



GHS05: For substances and mixtures, which are corrosive to metals, corrosive to skin and damage eyes severely



GHS07: Acute toxicity (oral, dermal, inhalation)




GHS08: Health hazard



GHS09: Environmental Hazard

H315 = Causes skin irritation  
 H319 = Causes serious eye irritation  
 H411 = Toxic to aquatic life with long lasting effects

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Issued by:	Quality control			

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This Material Safety Data Sheet (MSDS) is additional to the Technical Data Sheet (TDS) but does not replace it. The MSDS contains guidance on the safe handling, use, processing, storage, transportation and disposal of the product. This document relates to the original product BIO-PROTAN® Microfoliar PWD. It may not be valid for the formulation or combination with other materials or in any process. The product is developed and tested for the specified uses and should not be used for any other purposes. Any other use may involve risks. The user will take sole responsibility for the precautions relating to the use of the product. The information in this MSDS is applicable to the product with regard to appropriate safety precautions and is not intended to guarantee any particular properties. This document is not to be considered a warranty or quality specification.


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Publ. date: January 2015

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