


**MATERIAL SAFETY DATA SHEET**

According to Regulation (EC) No. 453/2010 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®Iron
Product number	1123
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	+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) and subsequent amendments. The product therefore 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:	Skin Irrit. 2	H315
Refer to paragraph 16 for full text of risk phrases and hazard statements	Eye Irrit. 2	H319

**2.2 Label elements**

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

Hazard pictogram(s):		
Signal word:	Warning	
Hazard statement(s):	H315 H319	Causes skin irritation Causes serious eye Irritation
Precautionary statement(s):	P264	Wash hands thoroughly after handling



P280	Wear eye protection/face protection/protective gloves
P305+P351+P338	IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: wash with plenty of soap and water.

### 2.3 Other hazards

Assessment on PBT (persistent, bio accumulative and toxic substances) or vPvB (very persistent and very bio accumulative substances) is not applicable.

## SECTION 3: Composition/Information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixture

Natural polymer (amino acids and peptides) modified by chemical hydrolysis and mixed with Iron Sulphate.

Type of formulation: liquid fertilizer, soluble in water

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: Eye Irrit. 2; H319 Skin Irrit. 2; H315 Acute tox.4; H302	≤ 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	If feeling unwell after first aid measures, seek medical advice. Show this safety data sheet to the doctor in attendance.
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. Get medical attention if irritation persists. Wash contaminated clothing before reuse
In case of eye contact	Flush eyes thoroughly with running water keeping eyelids open for min 10 minutes. Remove contact lenses. Seek medical advice.
If swallowed/ingested	Rinse mouth with water. Drink plenty of water. Seek medical advice if swallowed in great quantity. Never give anything by mouth to an unconscious person.

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

Acute effect is eye irritation. Inhalation can cause irritation of nose and throat mucous membrane. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhoea. The most important known symptoms and effects are described in section 2.2 (labelling) and section 11.

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

Treat according to symptoms.



## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable media	Use <u>water spray</u> , CO <sub>2</sub> , alcohol resistant foam, dry chemical, depending on the materials involved in the fire.
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Unsuitable media	None in particular. Use <u>water jets</u> only to cool the surfaces of the containers exposed.
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### 5.2 Special hazards arising from the substance or mixture

Liquid product is not reactive and not flammable. Can emit toxic fumes if involved in a fire: carbon oxide and nitrous vapours, ammonia, sulphur oxide, fumes with metal oxides (see section 10). Do not breathe in combustion products.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and suitable protective clothing.

### 5.4 Further information

Dispose of contaminated fire extinction water and fire remains according to applicable national and local regulations.

## SECTION 6: Accidental release measures

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

General advice	Always ensure your own safety first. Use proper equipment as indicated in section 8.
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For non-emergency personal	Follow safety precautions and act according to the rules of hygiene and good industrial practice.
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For emergency responders	Wear gloves and protective clothing and avoid contact with eyes and skin. Provide sufficient ventilation and wear respiratory protection in case of vapour release. Evacuate the danger area. If necessary, consult an expert. In case of fire, wear respiratory protection and eliminate all unguarded flames and sources of ignition.
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### 6.2 Environmental precautions

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

Recover the product for removal or-reuse. Possibly absorb it with liquid-binding material (earth, sand, diatomite, acid binders, universal binders, sawdust). Keep in suitable, labelled and closed container for disposal in accordance with regulations. After wiping up, wash with water the area and materials involved.

### 6.4 Reference to other sections

For emergency contact info	see section 1
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For personal protection	see section 8
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For waste disposal	see section 13
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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures/precautions:	Avoid contact with eyes, skin and clothing and avoid inhalation of vapours. When diluting, always stir the product into standing water. Keep containers
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	tightly sealed. Do not store in open or unlabelled containers.
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:	Keep in original container closed tightly. Do not store in open or unlabelled containers. Normal storage conditions without particular incompatibilities. Keep containers upright and safe avoiding possibility of falls or collisions.
Storage compatibility	Store separately from food and animal feed.
Additional disclosures on stock conditions	Store in a cool place, protect from frost and sources of heat.
Storage class	Non combustible liquid.

**SECTION 8: Exposure controls/personal protection**
**8.1 Control parameters**

Recommended occupational, consumer and environmental exposure limit values:	Applied to Iron (II) Sulphate Heptahydrate TLV-ACGIH (American Conference of Governmental Industrial Hygienists Acceptable Exposure Limit 2010): TWA/8h = 1 mg/m <sup>3</sup>
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**8.2 Exposure controls/personal protection**

Personal protective equipment	See product label for hazard details. Handle in accordance with good industrial hygiene practice and the usual precautionary measures for handling chemicals:
	
- Eye/face protection	Wear safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Face protection recommended in case of splash exposure risk.
- Hand protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this 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. For full and splash contact we advise the use of impermeable "Nitrile, PVC or Neoprene Rubber Gloves", minimum layer thickness of 0.11 mm. Break through time: > 30 min for splash protection, Break through time: > 480 min for immersion protection
- Skin and body protection	Wear complete body protection against chemicals in case of splash exposure risk. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wash with soap and water after removing protective clothing.





**- Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. Use 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. Avoid product enter drains.

**SECTION 9: Physical and chemical properties**
**9.1 Information on basic physical and chemical properties**

Appearance, form	liquid	Vapour pressure	not determined
Appearance, colour	dark brown	Vapour density	not determined
Odour	undefined	Relative density	1,22 – 1,24 kg/l
Odour threshold	not applicable	Water solubility(ies)	soluble
pH value at 20°C (solution 1:10)	4 - 5	Partition coefficient: n-octanol/water	not determined
Melting point	not determined	Auto-ignition temperature	not determined
Freezing point	- 2 °C		
Initial boiling point and boiling range	not determined	Decomposition temperature	not determined
Flash point	not applicable	Viscosity (dynamic at 20°C)	not determined
Evaporation rate	not applicable	Explosive properties	not determined
Flammability (solid, gas)	not self-igniting	Oxidising properties	not determined
Upper/lower flammability or explosive limits	not explosive	Vapour pressure	not determined

**9.2 Other safety information**

No further relevant information available.

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

No reactivity hazards.

**10.2 Chemical stability**

Stable under recommended storage and handling conditions No decomposition associated with the proposed use. The product contains no preservatives and is stable when stored undiluted in clean containers and if handled according to label directions. With decreasing shelf life, a slight precipitate is possible without changing product quality. (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 to section 10.5.

**10.4 Conditions to avoid**

Avoid storage in open containers and with temperatures above 30°C and less than 10°C.

**10.5 Incompatible materials**

Do not store together with strong reducing agents, elementary metal compounds, acids and alkalis. With strong oxidant agents like oxidant mineral acids, organic peroxides, organic water peroxides, elementary metals, exothermic reactions can occur. 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:	Iron (II) Sulphate Heptahydrate: LD50 Oral - mouse - 1.520 mg/kg
Acute dermal toxicity:	no data available
Acute inhalation toxicity:	no data available

#### Local effects:

Skin irritation:	May be harmful if absorbed through skin. Causes skin irritation.
Eye irritation:	Causes serious eye irritation. If brought in contact with eyes the product causes significant irritations which may last for more than 24 hours.
Skin sensitisation:	no data available

#### Other:

Sub-acute toxicity:	Negative
Mutagenicity:	Negative
Reproductive toxicity:	Negative
Carcinogenicity:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Additional information	Iron (II) Sulphate Heptahydrate: LD <sub>50</sub> (rat): Oral > 3'789 mg/kg body weight LD <sub>50</sub> (rat or rabbit) Dermal > 5'000 mg/kg body weight To the best of our knowledge, the chemical, physical, and toxicological properties of the mixture have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

The product is a fertilizer and therefore 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.

### 12.2 Persistence and degradability

No data available

### 12.3 Bio accumulative potential

No data available.

### 12.4 Mobility in the soil

No data available.

### 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	Do not reuse empty containers. Dispose of as unused product. Do not remove label until container is thoroughly cleaned.

**SECTION 14: Transport information**

The product is not dangerous with respect to the scope of application of the regulations concerning the transport of dangerous goods by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

**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® Iron 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 (EC) 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.

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**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) 1272/2008 (CPL) Regulation (EC) 1107/2009 (CLP) Regulation (EC) 790/2009 (I apt. CLP) The Merck Index Ed. 10 Handling Chemical Safety Niosh – Registry of toxic Effects of Chemical Substances INRS – Fiche Toxicologique Patty – industrial Hygiene and toxicology N.I. Sax – Dangerous properties of industrial Materials 7. Ed., 1989 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 set out in SECTION 3	H302 = Harmful if swallowed

**Legal notice**

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®Iron. 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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