



MATERIAL SAFETY DATA SHEET

According to Regulation (EC) No. 453/2010 and No. 1272/2008
Version # 1 of 01/08/2015

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

1.1 Product identifiers

Product name	BIO-PROTAN®NPK 4-0-5
Product number	1945
Brand	Protan AG
REACH No.:	A registration number is not available for this substance as the substance or its uses are exempted 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:	Agriculture, Fertilizer, Plant Strengthener
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1.3 Details of the supplier of the safety data sheet

Company	Protan Aktiengesellschaft – Runkelsstrasse 38, LI-9495 Triesen
Tel.:	+423 375 15 25
Fax:	+423 375 15 26
Email address	info@protan.li

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) +49 30 / 30686 790 (Gift-Notruf Berlin, 24 hours, language EN and DE)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to European Community regulation 1272/2008/EC.
This substance is not classified as dangerous according to directives 67/548/EEC and 1999/45/EEC.
Handle in accordance with good industrial hygiene and safety practice.

2.2 Label elements

The product is not subject to any labelling obligation/classification according to EC directives 1272/2008/EC, 1999/45/EEC and German ordinance on hazardous substances (Gefahrstoffverordnung (GefStoffV))

2.3 Other hazards

none
PBT and vPvB not applicable

SECTION 3: Composition/Information on ingredients

3.1 Substances

Chemical characterization	Mixture of organic acids. Natural plant and animal origin amino acids, humic substances and betaine.
Hazardous ingredients	No components need to be disclosed according to the applicable regulations

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

General recommendation	If feeling unwell after contact with the product, consult a physician and show this safety data sheet.
If inhaled	Move concerned person to well-ventilated area if feeling unwell. If keeps feeling unwell seek medical advice.
In case of skin contact	Remove contaminated clothing. Wash off concerned parts with mild soap and running water. Consult doctor in case of persisting skin irritation.
In case of eye contact	Remove contact lenses. Flush eyes thoroughly with running water.
If swallowed/Ingestion	Rinse mouth with water. Drink plenty of water. Seek medical advice if swallowed in great quantity.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

There are no special measures known. Treat according to symptoms.

SECTION 5: Firefighting measures
5.1 Extinguishing media

Suitable media	Liquid product is not flammable. Use <u>water spray</u> , CO ₂ , dry chemical, depending on the materials involved in the fire and surrounding conditions.
Unsuitable media	None known. Use water jets only to cool the surfaces of the containers exposed

5.2 Special hazards arising from the substance or mixture

Possible formation of toxic gases during heating or in case of fire (CO, CO₂).

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Dispose of fire residues and contaminated firefighting water in accordance with official regulations.

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personal	Leave the area surrounding the spill or release.
For emergency responders	Wear protective clothing and avoid contact with eyes and skin. Provide sufficient ventilation.

6.2 Environmental precautions

Do not let product enter drains in concentrated form. Contain spill with earth or sand. If the product has entered a watercourse in sewers or has contaminated soil or vegetation, notify it to the authorities. Discharge the remains in compliance with the regulations.

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6.3 Methods and material for containment and cleaning up

Recover the product for removal, or, if possible for reuse. Possibly absorb it with liquid-binding inert material (sand, diatomite, acid binders, universal binders, sawdust). Keep in suitable closed container for disposal in accordance with regulations. Dispose diluted residues from cleaning through the sewage system

6.4 Reference to other sections

For handling and storage	see section 7
For personal protection	see section 8
For disposal	see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special precautions required when the product is used properly for the relevant identified use (section 1.2.). Avoid eye contact and prolonged contact with the skin. Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and containers	Keep in original container closed tightly, upright and safe by avoiding the possibility of falls and collisions. Do not store in open or unlabelled containers. Preparation is concrete aggressive. Store in plastic container, coated steel or coated concrete silos.
Storage compatibility	Stored separately from food.
Additional disclosures on stock conditions	Store in a cool and dry place, protect from frost. Keep away from sources of heat and direct exposure of sunlight.
Storage class	12
Classification according to German Regulation BetrSichV and EC Regulation 2009/104/EEC	-

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The product does not contain any relevant quantities of materials with critical value limits to be monitored. Apply general workplace control parameters. No further information apart from section 7.

8.2 Exposure controls

Appropriate engineering control	Handle in accordance with good industrial hygiene practice and the usual precautionary measures for handling chemicals.
Personal protective equipment: - Eye/face protection - Skin protection - Body protection - Respiratory protection	Wear protective goggles .Use tested and approved equipment for eye protection EN 166 (EU). Handle with protective gloves. Does not require the use of chemical resistant gloves. Use PVC gloves as protection from splashes. Gloves made of leather and strong material are not suitable for handling the product. Work clothing. Respiratory protection is not required.

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Control of environmental exposure

Do not product enter drains and minimize product release in the environment

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

Appearance, form	liquid, viscous	Vapour pressure	not determined
Appearance, colour	dark brown	Vapour density	not determined
Odour	characteristic	Relative density	1,30 – 1,35 g/cm ³
Odour threshold	not applicable	Water solubility (-ies)	soluble
pH value at 20°C	5 – 6	Partition coefficient: n-octanol/water	not determined
Melting - / freezing point	not determined	Auto-ignition temperature	not determined
Initial boiling point and boiling range	> 100 °C	Decomposition temperature	not determined
Flash point	not applicable	Viscosity (dynamic at 20°C)	1000 mPas
Evaporation rate	not determined	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 conditions. No decomposition associated with the proposed use. The product contains no preservatives and is stable when stored undiluted in clean containers.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

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

With strong oxidant agents like oxidants mineral acids, organic peroxides, organic water peroxides, elementary metals, aluminium, exothermic reactions can occur.

10.6 Hazardous decomposition products

 Possible generation of toxic gases (NO_x, CO_x, NH₃). In the event of fire, see section 5.

SECTION 11: Toxicological information
11.1 Information on toxicological effects

Ingestion

 LD₅₀ Oral (mg/Kg):

> 5000



Inhalation	LC Rat inhalation (mg/L, 4h):	not applicable
Skin corrosion/irritation	LD ₅₀ Rat dermal (mg/kg):	> 2000
Serious eye damage or irritation	Contact with eyes may result in slight irritation	
Respiratory or skin sensitisation	not applicable	
Germ cell mutagenicity	not applicable	
Carcinogenicity	not applicable	
Reproductive toxicity	not applicable	
Specific target organ toxicity - single exposure	not applicable	
Specific target organ toxicity - repeated exposure	not applicable	
Additional information	RTECS No. not available. The product is free of pathogens, in accord with 1999/129/EC. The product is not subject to classification according to 1272/2008/EC (GHS regulation) and according to the German Ordinance on Hazardous Substances (Gefahrstoffverordnung (GefStoffV)). For our experience and information, the product does not have adverse health effects if used and handled according to specifications. To the best of our knowledge, the chemical, physical, and toxicological properties 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 used according to the recommended dosage and conditions of use. Low concentrations discharged correctly into adapted biological sewage treatment plants do not interfere with degradation activity of activated sludge.

Water hazard class (Germany)	Not classified	
Aquatic toxicity:	LC ₅₀ (96h):	58 mg/l (Fish)
	NOEC (21d):	23mg/l (Daphniae)
	NOEC (72h):	> 56 mg/l (Algae)
	EC ₅₀ (3h)	> 100 mg/l (Microorganism)

12.2 Persistence and degradability

The organic substances contained in the product are completely biodegradable.

12.3 Bioaccumulative potential

No bio-accumulation.

12.4 Mobility in the soil

No data available. Handle in accordance with good industrial hygiene and safety practice to prevent the spread of concentrate product and penetration into the soil and surface waters.

12.5 Results of PBT and vPvB assessment

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

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12.6 Other adverse effects

Generally not hazardous for water. No further relevant data available.

SECTION 13: Disposal considerations
13.1 Waste treatment methods

Unused product

"European Waste Catalogue and Hazardous Waste List" classification
 2000/532/EC
 2001/118/EC
 2001/119/EC
 2001/537/EC

Recommendation: follow the local and national regulations for the disposal. The disposal via digesters or composting municipal/private sewage treatment plant is possible. Do not discharge larger quantities into drains.

02 00 00 WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING

02 03 wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 99 wastes not otherwise specified

Contaminated packaging

Do not reuse empty containers. Dispose according the regulations in force.

SECTION 14: Transport information
14.1 UN number

ADR/RID: not applicable

IMDG: not applicable

IATA: not applicable

14.2 UN Proper shipping name

ADR/RID: no dangerous goods

IMDG: no dangerous goods

IATA: no dangerous goods

14.3 Transport hazard class(es)

ADR/RID: not applicable

IMDG: not applicable

IATA: not applicable

14.4 Packaging group

ADR/RID: not applicable

IMDG: not applicable

IATA: not applicable

14.5 Environmental hazards

ADR/RID: no

IMDG: Marine pollutant: no

IATA: no

14.6 Special precautions for users

Not applicable.

14.7 Transport in bulk according to annex II of MARPOL73/78 and the IBC code

Not applicable.

14.8 Transport / additional disclosures

No dangerous goods according to regulations mentioned above. Not falling within the scope of Directive 96/86/EC implemented by the German legislation concerning the transport of dangerous goods by road (GGVS Gefahrgutverordnung Strasse). Therefore no special precautions are required.

14.9 UN "model regulation"

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SECTION 15: Regulatory information

Not a hazardous substance or mixture according to Directives 67/548/EEC and 1999/45/EC. This safety data sheet complies with the requirements of Article 31 of Regulation EC No 1907/2006 (REACH regulation) and the information contained herein is displayed in the order prescribed in Annex II to that regulation, as amended 2010. 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, to make available to those who are required to use this product all necessary personal protective equipment and to ensure that such equipment is used.

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

EU regulations	Commission Regulation 453/2010/EC amending Regulation 1907/2006/EC of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC, 2001/60/CE Safety Data Sheets provided by suppliers of component substances.
German national regulations	Not classified according to German "BetrSichV" Water hazard class: Generally not hazardous for water.
Cautionary advise for label safety phrases:	Keep out of reach of children. Keep away from food, beverages and animal feed.

15.2 Chemical safety assessment

For this product, a chemical safety assessment is not required or was not carried out.

SECTION 16: Other information

Changes since last issue	New release.
Recommended restrictions on use	This product should be stored and handled in accordance with guidance given above. Use the substance only in the recommended manner and in conformity with all legal requirements.
Training advice	Those who are employed in the use of this product must be given training which highlights the need to handle and use it only in the recommended manner and at all times make use of the prescribed personal protective equipment.
Safety data sheet contact person	Protan AG, Christian DOBERS, Tel. Nr. +423 375 15 25
Abbreviations and acronyms	LC ₅₀ = Middle acute Lethal concentration NOEC = no observed effect level concentration 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 GefStoffV: Gefahrstoffverordnung (German Ordinance on Hazardous Substances)

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BetrSichV; Betriebssicherheitsverordnung (German Regulation on Operational Safety)

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 BIO-PROTAN®NPK 4-0-5. This document relates to the original product in the state in which it is delivered and may not be valid for the formulation or combination with other materials or in any process.

BIO-PROTAN®NPK 4-0-5 has been developed 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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