SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : PRODERM VIRUCIDE

Product code : 105205

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

Hygiene of the hands Main use category :

Product for mixed, professional and general public use.

1.3. Details of the supplier of the safety data sheet

Registered company name : IPC

Address : 20 Quai Malbert 29218 BREST Cedex 2 FRANCE. Telephone : +33 (0)2.98.33.45.44 Fax : +33 (0)2 98 44 22 53 ipc@groupe-ipc.com

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA http://www.centres-antipoison.net.

Other emergency numbers

European emergency call number : 112

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

2.2. Label elements

Biocidal mixture (see section 15).

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard statements :	
H412	Harmful to aquatic life with long lasting effects.
Precautionary statements - General :	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
Precautionary statements - Prevention	1:
P273	Avoid release to the environment.
Precautionary statements - Disposal :	
P501	Dispose of contents and container to approved waste disposal facility in accordance with national regulations.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

The mixture does not contain substances> = 0.1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

oral: ATE = 398 mg/kg BW

PRODERM VIRUCIDE

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

		2.7	
Identification	(EC) 1272/2008	Note	%
INDEX: 0759		[1]	2.5 <= x % < 10
CAS: 56-81-5			
EC: 200-289-5			
REACH: EXEMPTE			
GLYCEROL			
INDEX: 0091	GHS07, GHS05, GHS09		0 <= x % < 2.5
CAS: 68424-85-1	Dgr		
EC: 270-325-2	Acute Tox. 4, H302		
REACH: 01-2119965180-41-XXXX	Skin Corr. 1B, H314		
	Eye Dam. 1, H318		
QUATERNARY AMMONIUM COMPOUNDS,	Aquatic Acute 1, H400		
BENZYL-C12-16-ALKYLDIMETHYL,	MAcute = 10		
CHLORIDES	Aquatic Chronic 1, H410		
	M Chronic = 1		
INDEX: 612_131_00_6	GHS06, GHS05, GHS09		0 <= x % < 2.5
CAS: 7173-51-5	Dgr		
EC: 230-525-2	Acute Tox. 3, H301		
	Skin Corr. 1B, H314		
DIDECYLDIMETHYLAMMONIUM	Aquatic Acute 1, H400		
CHLORIDE	MAcute = 10		
	Aquatic Chronic 1, H410		
	M Chronic = 1		
Specific concentration limits:		L	
Identification	Specific concentration limits	ATE	
INDEX: 0759		oral: ATE = 12600 m	g/kg BW
CAS: 56-81-5		12000	0-0-0-0
EC: 200-289-5			
REACH: EXEMPTE			

CAS: 68424-85-1 EC: 270-325-2 REACH: 01-2119965180-41-XXXX	
QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES	
INDEX: 612_131_00_6	dermal: ATE = 3342 mg/kg BW
CAS: 7173-51-5	oral: ATE = 238 mg/kg BW
EC: 230-525-2	
DIDECYLDIMETHYLAMMONIUM CHLORIDE	

Information on ingredients :

GLYCEROL INDEX: 0091

(Full text of H-phrases: see section 16)

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. description of first aid measures

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If it appears a redness or visual discomfort, consult an ophthalmologist.

In the event of splashes or contact with skin :

In case of contact of the skin with the pure product, the rinser the part exposed to the water

If an irritation appears or if the contamination is spread or prolonged, to consult a doctor.

In the event of swallowing :

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor. Keep the person exposed at rest. Do not force vomiting.

Seek medical attention, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO2)

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO2)

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

Clean preferably with water. Avoid the use of solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Ensure that there is adequate ventilation, especially in confined areas.

Fire prevention :

Handle in well-ventilated areas.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep out of reach of children.

Keep the container tightly closed in a dry, well-ventilated place.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Store in original packaging, tightly closed, protected from light, heat and cold.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
56-81-5	10 mg/m3					
- Germany - AGW (BAuA - TRGS	900, 02/2022) :				
CAS	VME :	VME :	Excess	Notes		
56-81-5		200 E mg/m ³		2 (I)		
- France (INRS - Ou	ntils 65 / 2021-1	849, 2021-1763	3, decree of 09/1	2/2021):	-	
CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3:	Notes :	TMP No :
56-81-5	-	10	-	-	-	-
- Switzerland (Suva	2021):					
CAS	VME	VLE	Valeur plafond	Notations		
56-81-5	50 ppm	100 ppm				
- UK / WEL (Workp	place exposure l	imits, EH40/20	05, Fourth Editi	on 2020) :		
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
56-81-5	10 mg/m ³]

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1)

Final use:	Workers.
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	5.7 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.

DNEL :	3.96 mg of substance/m3
Final use:	Consumers.
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	3.4 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	3.4 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	1.64 mg of substance/m3
Predicted no effect concentration (PNEC):	
	BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1)
Environmental compartment:	Soil.
PNEC :	7 mg/kg
THEC.	, mg/Kg
Environmental compartment:	Fresh water.
PNEC :	0.0009 mg/l
THEO.	
Environmental compartment:	Sea water.
PNEC :	0.00096 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	0.00016 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	12.27 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	13.09 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	0.4 mg/l
	····

8.2. Exposure controls

Appropriate engineering controls

The personal protection measures set out below reflect our current knowledge of the product. They must be followed in cases of: increased handling of the product, during deconditioning/repackaging steps, in the event of accidental dispersion or fire fighting.

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

Goggles recommended for transfers.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- Natural latex
- PVC (polyvinyl chloride)
- Butyl Rubber (Isobutylene-isoprene copolymer)
- To be translated (XML)

- Body protection

Dianational state

Work clothing worn by personnel shall be laundered regularly. After contact with the product, all parts of the body that have been soiled must be washed. After contact with the pure product, all soiled parts of the body should be rinsed. Wash contaminated clothing before reuse.

- Respiratory protection

Under normal conditions, breathing protection is not required.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	
Physical state :	Viscous liquid.
Colour	
Color :	N/A
Odour	
Odour threshold :	Not stated.
Melting point	
Melting point/melting range :	Not relevant.
Freezing point	
Freezing point / Freezing range :	Not stated.
Boiling point or initial boiling point and boiling range	
Boiling point/boiling range :	Not relevant.
Flammability	
Flammability (solid, gas) :	Not stated.
Lower and upper explosion limit	
Explosive properties, lower explosivity limit (%):	Not stated.
Explosive properties, upper explosivity limit (%):	Not stated.
Flash point	
Flash point interval :	Not relevant.
Auto-ignition temperature	
Self-ignition temperature :	Not relevant.
Decomposition temperature	
Decomposition point/decomposition range :	Not relevant.
рН	
pH (aqueous solution) :	Not stated.
pH :	7.00 +/- 1.00.
	Neutral.
Kinematic viscosity	
Viscosity :	Not stated.
Solubility	
Water solubility :	Insoluble.
Fat solubility :	Not stated.
Partition coefficient n-octanol/water (log value)	
Partition coefficient: n-octanol/water :	Not stated.
Vapour pressure	
Vapour pressure (50°C) :	Not relevant.

Density and/or relative density

1.02 +/- 0.02 g/cm3 (à 20°C)
Not stated.

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

Avoid :

- frost
- heat

- exposure to light

10.5. Incompatible materials

Keep away from :

Do not mix with other disinfectants.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)

- carbon dioxide (CO2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Splashes in the eyes may cause irritation and reversible damage

11.1.1. Substances

Acute toxicity :

DIDECYLDIMETHYLAMMONIUM CHLORI Oral route :	DE (CAS: 7173-51-5) LD50 = 238 mg/kg Species : Rat OECD Guideline 401 (Acute Oral Toxicity)
Dermal route :	LD50 = 3342 mg/kg Species : Rabbit
QUATERNARY AMMONIUM COMPOUNDS, Oral route :	BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1) LD50 = 398 mg/kg Species : Rat
GLYCEROL (CAS: 56-81-5) Oral route :	LD50 = 12600 mg/kg

LD50 > 10000 mg/kg

Species : Rabbit

Skin corrosion/skin irritation :	
DIDECYLDIMETHYLAMMONIUM CHLO Corrosivity :	Causes severe skin burns.
conosivity.	Species : Rabbit
	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
	Effect observed : Overall irritation score Species : Rabbit
	Species - Factor
Respiratory or skin sensitisation :	
DIDECYLDIMETHYLAMMONIUM CHLO Buehler Test :	DRIDE (CAS: 7173-51-5) Non-sensitiser.
Bueiner fest.	Species : Guinea pig
	Other guideline
Germ cell mutagenicity :	
DIDECYLDIMETHYLAMMONIUM CHLO	
Mutagenesis (in vivo) :	Negative.
	Species : Rat OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Amos tost (in vitus) .	
Ames test (in vitro) :	Negative.
QUATERNARY AMMONIUM COMPOUNI	DS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1) No mutagenic effect.
Mutagenesis (in vitro) :	Negative.
Ames test (in vitro) :	Negative.
Carcinogenicity :	
DIDECYLDIMETHYLAMMONIUM CHLO	
Carcinogenicity Test :	Negative. No carcinogenic effect.
	No carcinogenic eriect.
11.1.2. Mixture	
No toxicological data available for the mixture.	
11.2. Information on other hazards	
Monograph(s) from the IARC (International Ag	ency for Research on Cancer) :
CAS 67-63-0 : IARC Group 3 : The agent is not o	classifiable as to its carcinogenicity to humans.
ECTION 12 : ECOLOGICAL INFORMATION	
Harmful to aquatic life with long lasting effects.	
The product must not be allowed to run into drain	is or waterways.
12.1. Toxicity	
12.1.1. Substances	

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5)

Fish toxicity :

LC50 = 0.19 mg/lFactor M = 1 Species : Pimephales promelas Duration of exposure : 96 h

NOEC = 0.032 mg/l

	Species : Danio rerio Duration of exposure : 35 days OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)
Crustacean toxicity :	EC50 = 0.062 mg/l Factor M = 10 Species : Daphnia magna Duration of exposure : 48 h
	NOEC = 0.010 mg/l Factor M = 1 Species : Daphnia magna Duration of exposure : 21 days OECD Guideline 211 (Daphnia magna Reproduction Test)
Algae toxicity :	ECr50 = 0.026 mg/l Factor M = 10 Species : Pseudokirchnerella subcapitata Duration of exposure : 96 h OECD Guideline 201 (Alga, Growth Inhibition Test)
QUATERNARY AMMONIUM COMPOUNDS, E Fish toxicity :	BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1) LC50 = 1 mg/l Factor M = 1 Duration of exposure : 96 h
Crustacean toxicity :	EC50 = 0.1 mg/l Factor M = 10 Species : Daphnia magna Duration of exposure : 48 h
Algae toxicity :	ECr50 = 0.1 mg/l Factor M = 10 Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h
	NOEC = 0.01 mg/l Factor M = 1 Species : Pseudokirchnerella subcapitata OECD Guideline 201 (Alga, Growth Inhibition Test)
GLYCEROL (CAS: 56-81-5)	
Fish toxicity :	LC50 = 54000 mg/l Species : Oncorhynchus mykiss Duration of exposure : 96 h
Crustacean toxicity :	EC50 > 10000 mg/l Species : Daphnia magna Duration of exposure : 24 h
12.1.2. Mixtures	

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5) Biodegradability : Rapidly degradable.

QUATERNARY AMMONIUM COMPOUNDS, BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1)

Biodegradability :	Rapidly degradable.
GLYCEROL (CAS: 56-81-5) Chemical oxygen demand :	DCO = 1.16 g/g
Chomed oxygen domaid .	ISO 15705 (Determination of the chemical oxygen demand index (ST-COD) - Small-scale sealed-tube method)
Five-day biochemical oxygen demand :	DBO5 = 0.87 g/g
Biodegradability :	Rapidly degradable. DBO5/DCO = 0.75
12.3. Bioaccumulative potential	
12.3.1. Substances	
DIDECYLDIMETHYLAMMONIUM CHLORII	
Bioaccumulation :	BCF = 81
QUATERNARY AMMONIUM COMPOUNDS, Octanol/water partition coefficient :	BENZYL-C12-16-ALKYLDIMETHYL, CHLORIDES (CAS: 68424-85-1) log Koe < 3.
GLYCEROL (CAS: 56-81-5) Octanol/water partition coefficient :	log Koe < 3.
12.4. Mobility in soil	
No data available.	
12.5. Results of PBT and vPvB assessment	
No data available.	
12.6. Endocrine disrupting properties	
No data available.	
12.7. Other adverse effects	
No data available.	
SECTION 13 : DISPOSAL CONSIDERATIONS	
Proper waste management of the mixture and/or its c	ontainer must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Exempt from transport classification and labelling.

14.1. UN number or ID number

14.2. UN proper shipping name

- -
- 14.3. Transport hazard class(es)
- 14.4. Packing group
- .

14.5. Environmental hazards

14.6. Special precautions for user

-

14.7. Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

- Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

- Container information:

The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH): https://echa.europa.eu/substances-restricted-under-reach.

- Particular provisions :

No data available.

- Labelling for biocidal products (Regulation (UE) n° 528/2012) :

Name	CAS	%	Product-type
QUATERNARY AMMONIUM COMPOUNDS,	68424-85-1	7.50 g/kg	01
BENZYL-C12-16-ALKYLDIMETHYL,			
CHLORIDES			
DIDECYLDIMETHYLAMMONIUM	7173-51-5	3.38 g/kg	01
CHLORIDE			

Product-type 1 : Human hygiene.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.

LC50 : The concentration of a test substance resulting in 50% lethality in a given period.

EC50 : The effective concentration of substance that causes 50% of the maximum response.

ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.

NOEC : The concentration with no observed effect.

REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.

ATE : Acute Toxicity Estimate

BW : Body Weight

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

STEL : Short-term exposure limit

TWA : Time Weighted Averages

TMP : French Occupational Illness table

TLV : Threshold Limit Value (exposure)

AEV : Average Exposure Value.

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.