



# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 and Regulation (EC) No. 453/2010 (REACH)

## Bowcare Hand Rub ALCOHOL FOAM

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

#### 1.1 Product identifier

Product name : Hand Rub ALCOHOL FOAM

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against Product use

Ready-to-use product.

No restrictions within the intended use of this Product

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

GPP Hygiene  
Bowcare House  
Stephenson Drive, Waterwells  
Gloucester GL2 2AG  
08455193155  
sales@gpphygiene.co.uk

#### 1.4 Emergency telephone number

+31 30 274 88 88

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification Conforms to Regulation (67/548/EWG or 1999/45/  
EG This preparation is classified as Highly Flammable.

#### 2.2 Label elements

Labeling Conforms to Regulation (EC 1272/2008)



#### H and P phrases

H- phrases:

H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation

P- phrases:

P210 Keep away from heat, hot surfaces, sparks, open flame and other sources of ignition. Do not smoke.  
P233 Keep container tightly closed.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for a few minutes; remove contact lenses if possible; keep rinsing.  
P337 + P313 If eye irritation persists: consult a doctor.  
P404 Keep container tightly closed.  
P501 Dispose of contents / container in accordance with local regulations

# Hand Rub ALCOHOL FOAM

**2.3 Other hazards**  
no special hazards.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixture

**Chemical characterization (preparation):** a mixture of alcohols with a flash point below 61 ° C.

### 3.3 Hazardous ingredient

| Ingredient  | %v/v | Density | Hazard                 | Cas#    | EG#       | classification                                                                      |
|-------------|------|---------|------------------------|---------|-----------|-------------------------------------------------------------------------------------|
| Ethanol     | 60   | 0.790   | H225                   | 64-17-5 | 200-578-6 |  |
| Isopropanol | 3    | 0.785   | H319, H225, H335, H336 | 67-63-0 | 200-661-7 |                                                                                     |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### 4.2 Inhalation:

*Excessive exposure by inhalation may cause respiratory irritation.  
Remove victim to fresh air. In the event of being unwell, seek medical assistance*

#### 4.3 Skin contact:

*This concerns a hand disinfectant lotion based on alcohol. In the event of excessive skin contact or in the event of overdose:> 20 ml / dose or accidental contact other than hand disinfection. Wash off immediately with water.  
In the event of dehydration, regularly rub the skin with petrolatum, Nivea or other nourishing cream*

#### 4.4 Eye contact:

*Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.*

#### 4.5 Ingestion:

*Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell: consult a doctor  
Never give water to unconscious victim.  
Do not induce vomiting*

#### 4.6 Most important symptoms and effects, both acute and delayed:

*May irritate mucous membranes as a result of eye contact or inhalation, no other acute symptoms and effects known after exposure.may include a burning sensation, redness or swelling.  
No other acute symptoms and effects of exposure known..*

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media  
Use dry chemical, CO2, water spray (fog) or foam.  
Prevent liquid from entering drains*

# Hand Rub ALCOHOL FOAM

*Unsuitable extinguishing media Do not use water jet.*

## 5.2 Special hazards arising from the substance or mixture

*Hazards from the substance or mixture  
Highly flammable liquid and vapour.*

*Hazardous combustion products:  
Decomposition products may include the following materials:  
carbon dioxide carbon monoxide*

## 5.3 Advice for firefighters

*Special precautions for fire-fighters  
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.*

*Special protective equipment for fire-fighters  
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.*

## SECTION 6: Accidental release measures

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

*Measures to clean up after spillage volumes > 5 litres; goggles, boots, gloves. Ventilate the area. Remove ignition sources Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation.*

### 6.2 Environmental precautions

*Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).*

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

*Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor*

*6.4 Reference to other sections not required*

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling Protective measures

*Store away from oxidizers and ignition sources. Keep cool and dry. Provide adequate ventilation. When handling chemicals the usual precautions should be observed. Provide eyewash in the immediate vicinity.*

# Hand Rub ALCOHOL FOAM

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

### Requirements for storage

Store away from oxidizers and ignition sources. Keep cool and dry. Provide adequate ventilation.

When handling chemicals the usual precautions should be observed.

Provide eyewash in the immediate vicinity

### Requirements for packaging

Packed according to the regulations mentioned in Chapter 3.4 of the ADR 2013 - Appendix A "Dangerous goods packed in limited quantities," European Convention on the International Carriage of Dangerous Goods by Road.

## 7.3 Specific end use(s) Recommendations

### Ready to use product

The preparation is safe to use. Follow the directions on the package.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

CAS-no's Chemical name / Exposure limits

#### Dutch SER Exposure limits

1. [www.ser.nl/nl/grenswaarden/ethanol.aspx](http://www.ser.nl/nl/grenswaarden/ethanol.aspx)

|                         |               |
|-------------------------|---------------|
| Product/ingredient name | Ethanol       |
| CAS number              | 64-17-5       |
| EU Number               | 200-578-6     |
| Synonyms                | Ethyl alcohol |

|                 |                                                                                                                                                  |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Exposure limits | 260 milligrams per cubic meter time-weighted average over 8 hours; H / 1900 milligrams per cubic meter Time weighted average over 15 minutes; H; |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

|                |              |
|----------------|--------------|
| Substantiation | Health Board |
|----------------|--------------|

|             |            |
|-------------|------------|
| Publication | 2006/06OSH |
|-------------|------------|

|                        |                                                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended monitoring | The TWA 8h method OSHA 100 (WGMM 4). This method is, however, not been validated for the TWA 15 min (WGMM 3). With simple modifications of the equipment is to achieve classification 4 |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

UK Exposure limit values ethanol EH40/2005 WELs (United Kingdom (UK), 8/2007).  
TWA: 1000 ppm 8 hour(s).  
TWA: 1920 mg/m<sup>3</sup> 8 hour(s).

Note: Exception Situation ethanol as disinfectant

### Derived effect levels

No DELs available.

### Predicted effect concentrations

No PECs available.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment

# Hand Rub ALCOHOL FOAM

## 8.2.2 Individual protection measures

### a) Eye/face protection

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### b) Skin / Body Protection

Not required under normal circumstances. It is a product suitable and intended for skin contact. Contaminated clothing. Protection for prolonged contact and contact other than hand disinfection actions, his glove material: Nitrile or Butyl rubber, material thickness:  $\geq 0.35$  mm.

Not suitable are gloves made of the following materials:

PVC gloves

Natural rubber (latex) Not suitable are gloves made of natural rubber (latex) or PVC.

### c) Respiratory protection

To the extent required by the determination of the exposure scenario or in exceptional cases (eg. In case of accidental release of substances, exceeding the occupational exposure limit) is the wearing of respirators. The limit for carrying this equipment must be observed.

#### Suitable respiratory protection:

Breathing apparatus; A gas filter; identification color: brown). Details relating to the initial requirements for use and application to the maximum concentration should be taken.

### d) Thermal hazards

Applicable in case of fire, see section 5.

## 8.2.3 Environmental exposure

EC legislation Water (76/464 / EEC): not specified

Air (1999/30 / EC): not specified/

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Information based on based on Ethanol 96%

|                                              |                                                                                                  |
|----------------------------------------------|--------------------------------------------------------------------------------------------------|
| Appearance                                   |                                                                                                  |
| Physical state                               | : liquid                                                                                         |
| Colour                                       | : Colourless.                                                                                    |
| Odour                                        | : Alcohol-like.                                                                                  |
| pH                                           | : 6,5.                                                                                           |
| Melting point/freezing point                 | : -114°C                                                                                         |
| Initial boiling point and boiling Range      | (ethanol) : 78-83°C                                                                              |
| Flash point                                  | °C                                                                                               |
| Evaporation rate                             | : < 21 °C                                                                                        |
| Flammability (solid, gas)                    | : Not applicable                                                                                 |
| Burning time                                 | : Not applicable                                                                                 |
| Burning rate                                 | : Not applicable. :                                                                              |
| Upper/lower flammability or explosive limits | Not applicable. ethanol 96%<br>Upper 15% ethanol 96%<br>Lower 5.9 kPa [20°<br>C] : 1.6 [Air = 1] |
| Vapour pressure                              |                                                                                                  |
| Vapour density                               |                                                                                                  |
| Relative density                             | :: 0.84 Not applicable. :                                                                        |
| Solubility(ies)                              | applicable. : Not applicable. : Not applicable.                                                  |
| Partition coefficient: octanol/water         |                                                                                                  |
| Auto-ignition temperature                    |                                                                                                  |

# Hand Rub ALCOHOL FOAM

## 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Avoid heating and the presence of ignition sources, no smoking.

Avoid contact with oxidants

No other dangerous reaction if the instructions / advice regarding storage and handling of the matter are properly applied.

### 10.2 Chemical stability

The product is stable

### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur. Exothermic reactions in case of contact with strong acids and oxidizing agents are possible.

### 10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize or not cut the holder. When using this product, do not solder, drill, grind or expose containers to heat or sources of ignition. Avoid vapours accumulate in low or confined areas.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Information about the toxicological effects of the component Ethanol

#### Skin contact:

##### a) Acute toxicity

- LD50 (oral, rat) (mg / kg) 10 470

- LD50 (dermal, rabbit) (mg / kg) > 15 800

- LC50 (inhalation (rats, 4 hours) (mg / l)  
51

##### b) Repeated dose toxicity

- Oral NOAEL (90 d, rat, female) 1730 mg / kgbw / d

- Dermal No known toxicological effects

Due to the rapid evaporation in the event of degradation of the skin is dermal exposure is negligible. Repeated relevant dermal damage can be excluded.

- Inhalation NOAEL (20 d, rat, man) > 20 mg / L

##### c) Corrosion / irritation of the skin

Not irritating (rabbit)

Not irritant to very slightly irritating (epidemiological studies on humans).

# Hand Rub ALCOHOL FOAM

*Based on the evidence available is the classification criteria of a the categories of this hazard class are not met.*

*Experience shows that longer / repetitive skin contact may work with ethanol removes fat and can cause dermatitis.*

**d) Serious damage / eye irritation**

*No irreversible effects on the eye (rabbit)*

*Irritating to eyes (rabbit)*

**e) Sensitive to respiratory or skin**

*Not susceptible to skin (mouse, man)*

*Not susceptible to skin (mouse ear swelling test)*

*Sensitivity to respiratory tract: No data available.*

*Based on the available data, the classification criteria of any of the categories of this hazard class are not met.*

**f) Germ-cell mutagenicity**

*Based on the available data, the classification criteria of any of the categories of this hazard class are not met.*

**g) Carcinogenicity**

*Based on the available data, the classification criteria of any of the categories of this hazard class are not met.*

**h) Reproductive toxicity**

*Based on the available data, the classification criteria of any of the categories of this hazard class are not met*

**i) Specific target organ toxicity - single exposure**

*- Respiratory: No test data available*

*Existing research results of other short chain alcohols show that no serious respiratory irritation has to be expected.*

*- Mucous membranes: No test data available.*

*- Narcotic Effects: No test data available.*

*Note: Results of studies with respect to human toxicity, based on the consumption of ethanol in alcoholic beverages, cannot be used to determine the narcotic effects of ethanol as a chemical substance in the workplace. Based on the available data, the classification criteria of any of the categories of this hazard class are not met.*

**j) Specific target organ toxicity - repeated exposure**

*- Neurotoxicity Based on the available data, the classification criteria of any of the categories of this hazard class are not met.*

**k) hazard**

*No indication that the substance toxicity caused by inhalation.*

*Based on the available data, the classification of the categories of this hazard class are not met.*

## 11.2 General remarks

*No toxicological tests have been conducted on this product as such*

*The toxicological data as known of ethanol are listed in section 11.*

*This product is classified as mentioned in section 15.*

## 11.3 Other Toxicological data

*Scientific publications report the matter Ethanol possible mutagenic, carcinogenic and teratogenic. Effects on reproduction are also described. Most reports, however, refer to the effects of the oral administration of ethanol (alcohol abuse). Other No known significant effects or critical hazards. The relevant components are mentioned in section 3. If used are no known adverse effects after long years of experience.*

# Hand Rub ALCOHOL FOAM

## 11.4 Further information

### Information about the toxicological effects of the component Isopropylalcohol

#### Acute toxicity

- LD50 (oral, rat) (mg / kg) 4396
- LD50 (dermal, rabbit) (mg / kg) 12 870
- LC50 (inhalation (rats, 4 hours) (mg / l) 72.6–  
LC50

The substance has a slightly irritating to the skin and severely irritating to the mucous membranes of the eyes, nose, mouth and throat. The vapour of the substance irritates the eyes and upper respiratory tract. The liquid defats the skin. The substance may act on the central nervous system and the heart. After inhalation of high concentrations or ingestion of the substance can give rise to, among other things reduced consciousness and blood pressure. Vapours may cause drowsiness and dizziness. Repeated exposure may cause skin dryness or cracking.

## SECTION 12: Ecological information

### 12.1 Toxicity

Water Hazard Class: not water pollutant

### 12.2. Persistence and degradability

Easily degradable (BOD5: COD > 0.5)

### 12.3 Bioaccumulative potential

The bio accumulative potential is not big ( $\log P$  n-octanol / water  $\leq 3.0$  and  $BCF \leq 100$ ).  
(BCF) = Bio concentration factor

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

|                |                                                                               |
|----------------|-------------------------------------------------------------------------------|
| Provision PBT: | Does not meet the PBT criteria of Annex XIII Regulation (EC). 1907/2006. Does |
| vPvB           | not meet the vPvB criteria in Annex XIII of Regulation (EC) Nr.1907 / 2006    |
| determination: |                                                                               |

### 12.6 Other adverse effects

General information: If appropriately handled and used, no ecological problems are to be expected.  
WGK (The Netherlands) 11 (little harmful to aquatic organisms). Water hazard class (WGK Germany) 1 (slightly harmful to water)

## SECTION 13: Disposal considerations

### 13.1 Substance or mixture:

Within the European Union there are no standards established for elimination of chemical waste or waste of a special character. Treatment and disposal are subject to the internal regulations. This, in each case, contact should be made with the authority or companies, legally authorized for elimination of waste.  
2001/573 / EC: Council Decision of 23 July 2001 amending Decision 2000/532 / EC as regards the list of wastes.  
Directive 91/156 / EEC of 18 March 1991 amending Directive 75/442 / EEC on waste

# Hand Rub ALCOHOL FOAM

## 13.2 Contaminated containers:

Contaminated containers and packaging of dangerous substances or preparations must be treated the same treatment as the products have been in the packaging.

Directive 94/62 / EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

## SECTION 14: Transport information

### 14.1 UN number

ADR / RID:

1987 IMDG:

1987 IATA:

1987

### 14.2 proper shipping name from the UN Model Regulations:

ADR / RID: UN1987 Alcohols

N.O.S. (Ethanol, isopropanol mixture), 3, III

ADR Label: No. 3

Limited Quantities: yes

Tunnel code: D / E

IMDG, UN No. : UN1987

Proper Shipping Name: UN1987 Alcohols

N.O.S.

(Ethanol, isopropanol mixture) Class: 3, PG III

EmS F-A, S-I

(Ethanol, isopropanol mixture) Class: 3, PG III

### 14.3 Transport hazard class(es)

Classification as ADR material for road

transport ADR / RID / ADN Class : Class 3

IMDG : Class 3

IATA : Class 3

Hazard identification 5.3.2.3: 30

3.4 Limited Quantity : 5 ltr

3.5.1.2 Excepted Quantities : E1

4.1.4 Packing Instructions : P001, IBC03,

Special provisions 3.3 R001 :

### 14.4 Packing group:

ADR / RID: Packing Group :

IMDG: Packing Group III

IATA / ICAO: Packing Group :

14.5 Environmental hazards No. Marine pollutant II No

14.6 Special precautions for user : In this appearance, the LQ regulations apply

III

# Hand Rub ALCOHOL FOAM

## 14.6 Special precautions for user:

*In this appearance, the LQ regulations apply*

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

*Not applicable. No information required*

14.8 Labels and attributes:ADR/RID : 1987  
IMDG : 1987  
IATA : 1987

## 14.2 proper shipping name from the UN Model Regulations:

ADR / RID: UN1987 Alcohols N.O.S.  
(Ethanol, isopropanol mixture), 3, III

ADR Label: No. 3  
Limited Quantities: yes  
Tunnel code: D / E

IMDG, UN No. : UN1987  
Proper Shipping Name: UN1987 Alcohols  
N.O.S.  
(Ethanol, isopropanol mixture) Class: 3, PG III  
EmS F-A, S-I

IATA / ICAO: UN1987 Alcohols N.O.S.  
(Ethanol, isopropanol mixture) Class: 3, PG III

## 14.3 Transport hazard class(es)

Classification as ADR material for road  
transport ADR / RID / ADN Class: Class 3

IMDG: Class 3  
IATA: Class 3

Hazard identification 5.3.2.3: 30  
3.4 Limited Quantity: 5 ltr  
3.5.1.2 Excepted Quantities: E1  
4.1.4 Packing Instructions: P001, IBC03, R001  
Special provisions 3.3: 274/601

## 14.4 Packing group:

ADR / RID: Packing Group: III  
IMDG: Packing Group: III  
IATA / ICAO: Packing Group:  
III 14.5 Environmental hazards  
No. Marine pollutant: No

## 14.6 Special precautions for user:

*In this appearance, the LQ regulations apply*

## Hand Rub ALCOHOL FOAM

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:  
*Not applicable. No information required*

14.8 Labels and attributes:



### SECTION 15: Regulatory information

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

*Ozone-depleting potential of substances:*  
*Is not covered by Regulation (EC). 2037/2000.*

*Persistent organic pollutants (POPs):*  
*Is not covered by Regulation (EC). 850/2004.*

*Export and import of dangerous chemicals*  
*Is not covered by Regulation (EC). 689/2008.*

*detergents Regulation*  
*Is not covered by Regulation (EC). 648/2004.*

*Restrictions (REACH Title VII), SVHC*  
*No restrictions under Title VIII of Regulation (EC). 1907/2006.*

*EC Labelling:* Flame  
*GHS Signal Word:* Danger!

*GHS H and P statements: H225 Highly flammable liquid and vapor*  
*P210 Keep away from heat / sparks / open flames / hot surfaces. - Do not smoke.*

*Symbols*



*Allergen information:*  
*Contains no allergens and / or perfumes, perfume ingredients. No hypersensitivity expected*

15.2 Chemical Safety  
*Assessment Not available.*

# Hand Rub ALCOHOL FOAM

## SECTION 16: Other information

### 16.1 Information concerning revised edition

Version: 1.2

*Application of the provisions of Regulation (EC). 453/2010. This Safety Data Sheet issued by Oriënza B.V. according to Regulation (EU) no. 1907/2006 and in accordance with Regulation (EU) no. 1907/2006 of the European Parliament and the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals and Regulation (EU). 453/2010 (REACH).*

*The information in this SDS are based on the current state of knowledge and experience. This Safety Data Sheet describes products with a view to the safety requirements. This information is no guarantee for product properties. It is the duty of the user to use this product with care and to observe the applicable laws and regulations.*

*In order to facilitate the readability, there is an "Content " added to this sheet.*

### 16.2 Abbreviations and acronyms

|                  |                                                                      |
|------------------|----------------------------------------------------------------------|
| CA               | Chemical Abstracts Service (Division der American Chemical Society)  |
| S                | Classification, Labelling and Packaging                              |
| CLP              | Chemical Safety Assessment                                           |
| CS               | Chemical Safety Report                                               |
| A DNEL           | Derived No Effect Level                                              |
| CS DMEL          | Derived Minimal Effect Level                                         |
| R DSD / DPD      | Dangerous Substances Directive / Dangerous Preparations Directive    |
| EC50             | Effect Concentration, 50 percent                                     |
| EC-Number        | EINECS-, ELINCS- or CLP-Number (                                     |
| EINECS           | European Inventory of Existing Commercial Chemical Substances        |
| ERICard          | Emergency Response Intervention Card                                 |
| GHS / CLP        | Globally Harmonised System / Classification, Labelling and Packaging |
| IC50             | Inhibitory Concentration, 50 percent                                 |
| LC5              | Lethal Concentration, 50 percent                                     |
| 0                | Lethal Dose, 50 percent                                              |
| <del>NOAEC</del> | No observed adverse effect concentration                             |
| <del>NOAEL</del> | No observed adverse effect level                                     |
| NOEL             | No observed effect level                                             |
| PBT              | Persistent, Bioaccumulative and Toxic                                |
| PNEC             | Predicted No Effect Concentration                                    |
| ppm              | Parts per million                                                    |
| TLV              | Threshold Limit Value (                                              |
| TWA              | Time Weighted Average (                                              |
| vPvB             | very persistent and very bio-accumulative                            |