



## SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

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

#### 1.1. Product identifier

Product name : BATTERIE BS 18 LITHIUM - 18 V 2.0 AH ET 4.0 AH

Product code : SPIT - 054413.

The battery is considered to be an ARTICLE for the purposes of REACH.

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

Rechargeable lithium ion batteries.

Used for electric tools.

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

Registered company name : SPIT.

Address : 150, route de Lyon.26500.BOURG LES VALENCE.France.

Telephone : 0 810 102 102. Fax : 0 810 432 432.

Email : msds-reach@spit.com

<http://www.spit.fr>

#### 1.4. Emergency telephone number : 112.

Association/Organisation : European emergency number.

### SECTION 2 : HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

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

Acute inhalation toxicity, Category 2 (Acute Tox. 2, H330).

Respiratory sensitisation, Category 1 (Resp. Sens. 1, H334).

Skin sensitisation, Category 1 (Skin Sens. 1, H317).

Carcinogenicity, Category 1B (Carc. 1B, H350).

Specific target organ toxicity (repeated exposure), Category 1 (STOT RE 1, H372).

Hazardous to the aquatic environment - Chronic hazard, Category 4 (Aquatic Chronic 4, H413).

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

#### 2.2. Label elements

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

Hazard pictograms :



GHS06



GHS08

Signal Word :

DANGER

Product identifiers :

EC 235-362-0

CAS 12057-17-9

CAS 182442-95-1

Hazard statements :

H317

H330

H334

COBALT LITHIUM DIOXIDE

LITHIUM MANGANESE (III,IV) OXIDE

MANGANESE(2+) ION LAMBDA<sup>2</sup>-COBALT(2+) ION LITHIUM(1+) ION OXONICKEL

May cause an allergic skin reaction.

Fatal if inhaled.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure (if inhaled).
H413	May cause long lasting harmful effects to aquatic life.
Precautionary statements - General :	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
Precautionary statements - Prevention :	
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
Precautionary statements - Response :	
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P362 + P364	Take off contaminated clothing and wash it before reuse.
Precautionary statements - Disposal :	
P501	Dispose of contents/container at a disposal facility in accordance with local regulations.

**2.3. Other hazards**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq 0.1\%$  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 BATTERY IS AN ARTICLE CONTAINING AN INTEGRATED MIXTURE (electrolyte - REACH definition).

THE ELECTROLYTE IS CONSUMED DURING THE ARTICLE'S USE PHASE AND IS NOT REJECTED (unless the article is damaged).

THE ABOVE LABEL IS THEREFORE FOR INFORMATION PURPOSES in case the ARTICLE IS DAMAGED and should not be fixed to the article.

The rechargeable lithium ion batteries described in this SDS are sealed products that are not hazardous when used in accordance with the manufacturer's instructions.

Do not short circuit, pierce, incinerate, crush, submerge, forcefully discharge or expose to temperatures in excess of the operating range stated on the products. Risk of fire and explosion.

**SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures****Composition :**

Identification	(EC) 1272/2008	Note	%
ELECTROLYTE ORGANIQUE (CONTENANT PRINCIPALEMENT DES ESTERS DE CARBONATE)			-
CAS: 7440-50-8 EC: 231-159-6 REACH: 17-2119429821-40		[1]	-
COPPER			
CAS: 7429-90-5 EC: 231-072-3 REACH: 01-2119529243-45		[1]	-
ALUMINIUM			
CAS: 12190-79-3 EC: 235-362-0	GHS07, GHS08 Dgr Acute Tox. 4, H302 Skin Sens. 1, H317 Resp. Sens. 1, H334 Aquatic Chronic 3, H412		-
COBALT LITHIUM DIOXIDE			
CAS: 7782-42-5 EC: 231-955-3		[1]	-

GRAPHITE CAS: 7440-44-0 EC: 231-153-3		[1]	-
CARBONE CAS: 7439-89-6 EC: 231-096-4 REACH: 01-2119462838-24			-
IRON CAS: 12057-17-9	GHS07 Wng Acute Tox. 4, H302 Acute Tox. 4, H332 Aquatic Chronic 4, H413		-
LITHIUM MANGANESE (III,IV) OXIDE CAS: 182442-95-1	GHS06, GHS08 Dgr Skin Sens. 1, H317 Acute Tox. 2, H330 Resp. Sens. 1, H334 Carc. 1B, H350i STOT RE 1, H372 Aquatic Chronic 3, H412	[2]	-
MANGANESE(2+) ION LAMBDA <sup>2</sup> -COBALT(2+) ION LITHIUM(1+) ION OXONICKEL			

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

**Information on ingredients :**

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

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

**Other data :**

Each battery consists of a sealed metal container containing chemical substances and components, some of which may be hazardous in the event of a leak.

There is no risk from being exposed to these batteries unless the seal containing the electrochemical elements is broken by exposure to excess temperatures or the accidental application of abusive electrical or mechanical constraints.

**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**

If a battery is ruptured or opened, evacuate people from the contaminated zone and ensure maximum ventilation to eliminate any corrosive gases, smoke or unpleasant odours.

If this event is the result of an accident, follow the advice below:

**In the event of exposure by inhalation :**

In the event of massive inhalation of dust, remove the person exposed to fresh air. Keep warm and at rest.

If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation. Use the appropriate equipment.

In the event of an allergic reaction, seek medical attention.

**In the event of splashes or contact with eyes :**

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

If there is any redness, pain or visual impairment, consult an ophthalmologist.

**In the event of splashes or contact with skin :**

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

**In the event of swallowing :**

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Seek medical attention immediately, showing 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

No data available.

#### 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 (CO<sub>2</sub>)
- hydrogen fluoride (HF)

#### 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 non first aid worker

Avoid any contact with the skin and eyes.

Avoid inhaling dust.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

##### For first aid worker

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

#### 6.2. Environmental precautions

Prevent any material from entering drains or waterways.

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

Retrieve the product by mechanical means (sweeping/vacuuming).

Hermetically seal leaking batteries and any contaminated absorbent material in a plastic bag and eliminate it as Special Waste in accordance with local regulations.

#### 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.

Individuals with a history of asthma, allergies and/or chronic or periodical breathing difficulties should not, under any circumstances, use these mixtures.

Individuals with a history of skin sensitisation should not, under any circumstance, handle this mixture.

#### 7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Do not crush or pierce the batteries or short circuit their positive/negative terminals with conducting materials (e.g.: metals) as this can result in excessive heating.

Do not apply direct heat or solder. Do not burn batteries.

Do not mix different brands or types of battery. Do not mix new batteries with old batteries.

Store batteries in non-conductive trays (e.g.: plastic).

Do not disassemble, damage or mechanically degrade the batteries.

##### 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.  
Do not breathe in dust.  
Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.  
In all cases, recover emissions at source.  
Avoid exposure - obtain special instructions before use.

**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.  
Leave a suitable gap between the batteries and walls.  
Temperatures in excess of 70°C may cause batteries to leak and rupture.  
Store batteries in their original packaging until they are to be used; do not mix them as a short circuit can cause a fire, a risk of leaks or rupture.

**Packaging**

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

**7.3. Specific end use(s)**

Comply with the manufacturer's recommendations and the operating temperature range.  
Applying pressure that can deform the battery may result in a disassembly followed by ocular, dermal or laryngeal irritation.  
Do not immerse the batteries in water.  
The batteries are not intended to be recharged by any external power sources other than Li-ion chargers approved by the manufacturer.

**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 :
7440-50-8	0.2 mg/m <sup>3</sup>	-	-	-	-
7429-90-5	2 mg/m <sup>3</sup>	-	-	-	-
7782-42-5	2 (R) mg/m <sup>3</sup>				

- Belgium (Arrêté du 09/03/2014, 2014) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-50-8	1 mg/m <sup>3</sup>	-	-	-	-
7429-90-5	10 mg/m <sup>3</sup>	-	-	-	-
7782-42-5	2 mg/m <sup>3</sup>				
7440-44-0	2 f/cc	-	-	-	-

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m <sup>3</sup> :	VLE-ppm :	VLE-mg/m <sup>3</sup> :	Notes :	TMP No :
7429-90-5	-	10	-	-	-	-
7782-42-5	-	2 A	-	-	-	25

- Switzerland (SUVAPRO 2017) :

CAS	VME	VLE	Valeur plafond	Notations
7440-50-8	0,1 i mg/m <sup>3</sup>	0,2 i mg/m <sup>3</sup>		SSC
7429-90-5	3 a mg/m <sup>3</sup>			B
7782-42-5	2,5 a mg/m <sup>3</sup>			SSC

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-50-8	0.2 mg/m <sup>3</sup>	-	-	-	-
7429-90-5	2 mg/m <sup>3</sup>	-	-	-	-
7440-44-0	- ppm 4 mg/m <sup>3</sup>	- ppm - mg/m <sup>3</sup>			

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

ALUMINIUM (CAS: 7429-90-5)

**Final use:**

Exposure method:  
Potential health effects:  
DNEL :

**Workers.**

Ingestion.  
Long term systemic effects.  
3.95 mg/kg body weight/day

Exposure method:  
Potential health effects:

Inhalation.  
Long term local effects.

DNEL : 3.72 mg of substance/m3

**Predicted no effect concentration (PNEC):**

ALUMINIUM (CAS: 7429-90-5)

Environmental compartment:

Waste water treatment plant.

PNEC :

20 mg/l

**8.2. Exposure controls****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.

Before handling powders or dust emission, wear mask goggles in accordance with standard EN166.

**- Hand protection**

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Recommended properties :

- Impervious gloves in accordance with standard EN374

Protect against electrolyte leakage.

**- Body protection**

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

Wear protective clothing against solid chemicals and particles suspended in the air (type 5) in accordance with standard EN13982-1 to prevent skin contact.

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.

Use personal protective equipment in the event of an electrolyte leak.

**- Respiratory protection**

Avoid breathing dust.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Type of FFP mask :

Wear a disposable half-mask dust filter in accordance with standard EN149.

Category :

- FFP1

- FFP3

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

- A3 (Brown)

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties****General information :**

Physical state :	Solid.
Odour:	Odour-free (except if the product is damaged and there is an electrolyte leak)

**Important health, safety and environmental information**

pH :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	> 1
Water solubility :	Insoluble.

**9.2. Other information**

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**

No data available.

**10.4. Conditions to avoid**

Avoid :

- formation of dusts
- heat
- humidity

Dusts can form an explosive mixture with air.

**10.5. Incompatible materials**

Keep away from :

- oxidising agents

**10.6. Hazardous decomposition products**

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)
- hydrogen fluoride (HF)

**SECTION 11 : TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Fatal by inhalation.

May cause hypersensitivity of the respiratory tracts with effects taking the form of asthma, rhinitis/conjunctivitis or alveolitis.

May cause an allergic reaction by skin contact.

Presumed human carcinogen by inhalation.

Causes severe damage to organs in the event of repeated or prolonged exposure.

**11.1.1. Substances**

No toxicological data available for the substances.

**11.1.2. Mixture****Respiratory or skin sensitisation :**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**SECTION 12 : ECOLOGICAL INFORMATION**

May cause long lasting harmful effects to aquatic life.

The product must not be allowed to run into drains or waterways.

**12.1. Toxicity****12.1.2. Mixtures**

No aquatic toxicity data available for the mixture.

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

No data available.

#### 12.6. Other adverse effects

No data available.

#### German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

### SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

Do not incinerate or submit elements to temperatures in excess of 70°C. An excess temperature may damage the seal, cause a leak and/or cause elements to explode.

#### 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

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

#### 14.1. UN number

3480

~ See also UN 3481 ~

#### 14.2. UN proper shipping name

UN3480=LITHIUM ION BATTERIES (including lithium ion polymer batteries)

~ See also UN 3481 - LITHIUM-ION CELLS AND BATTERIES INSTALLED IN OR PACKED WITH EQUIPMENT (including lithium ion batteries with polymer membrane) ~

#### 14.3. Transport hazard class(es)

- Classification :

9A

#### 14.4. Packing group

-

#### 14.5. Environmental hazards

-

#### 14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M4	-	9A	-	0	188 230 310 348 376 377 636	E0	2	E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	9	-	-	0	F-A,S-I	188 230 310 348 376 377 384	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	9	-	-	Forbidden	Forbidden	See 965	See 965	A88 A99 A154 A164 A183 A201 A206 A331	E0	
	9	-	-	Forbidden	Forbidden	-	-	A88 A99 A154 A164 A183 A201 A206 A331	E0	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.



For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

### 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. 2018/669 (ATP 11)

##### - Container information:

Packaging to be fitted with child-resistant fastenings (see EC Regulation No. 1272/2008, Annex II, Part 3).

Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

##### Usage restrictions apply to the product : See annex XVII of EC regulation No. 1907/2006.

Banned from sale to the general public (EC Regulation No. 1907/2006) - For professional users only.

##### - Particular provisions :

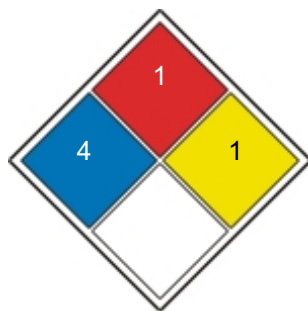
No data available.

##### - German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

##### - Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=4 Inflammability=1 Instability/Reactivity=1 Specific Risk=none



#### 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 :

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350i	May cause cancer by inhalation.
H372	Causes damage to organs through prolonged or repeated exposure .
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

#### Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

CMR: Carcinogenic, mutagenic or reprotoxic.

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.  
WGK : Wassergefährdungsklasse (Water Hazard Class).  
GHS06 : Skull and crossbones  
GHS08 : Health hazard  
PBT: Persistent, bioaccumulable and toxic.  
vPvB : Very persistent, very bioaccumulable.  
SVHC : Substances of very high concern.