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 : BATTERY LI-ION P27/P40/P800/IF/ST400I
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.

1.3. Details of the supplier of the safety data sheet

Registered company name : SPIT PASLODE.
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.

Other emergency numbers

National Poisons Information Service of England: http://npis.org - NHS 111: dial 111 - National Poisons Information Centre of Ireland: 353 (1) 809 2166 - European Emergency Number Association (EENA) : 112

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

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).
This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

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

Additional labeling :
EUH210 Safety data sheet available on request.

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 59 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.
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	Classification (EC) 1272/2008	Note	%
STAINLESS, NICKEL AND INERT MATERIALS			-
METAL OXIDE (PROPRIETARY)			20 - 50

CAS: 7440-44-0 EC: 231-153-3 CARBONE	GHS07, GHS02 Dgr Flam. Sol. 1, H228 Self-heat. 1, H251 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[i]	10 - 30
ELECTROLYTE (PROPRIETARY)	GHS06, GHS05, GHS02 Dgr Flam. Liq. 2, H225 Skin Corr. 1, H314 Acute Tox. 2, H330		10 - 20
CAS: 7429-90-5 EC: 231-072-3 REACH: 01-2119529243-45 ALUMINIUM		[i]	2 - 10
CAS: 7440-50-8 EC: 231-159-6 REACH: 17-2119429821-40 COPPER	GHS07, GHS09 Wng Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 1, H410 M Chronic = 1	[i]	2 - 10
CAS: 24937-79-9 POLY(VINYLIDENE FLUORIDE)			< 5

Information on ingredients :

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

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

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

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.

In the event of exposure by inhalation :

If inhaled, move the patient into the fresh air and keep warm and at rest.

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 :

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

In the event of swallowing :

Seek medical attention, 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

Suitable methods of extinction

In the event of a fire, use :
- water
- carbon dioxide (CO_2)

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_2)
- 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 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.

7.1. Precautions for safe handling

Always wash hands after handling.
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 :

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.

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

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.
Storage temperature: < 30°C.

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 :
7429-90-5	2 mg/m3	-	-	-	-
7440-50-8	0.2 mg/m3	-	-	-	-

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7429-90-5	2 mg/m3	-	-	-	-
7440-50-8	1 mg/m3	-	-	-	-

- Austria (BGBl. II Nr. 156/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-44-0	5A mg/m3	10A mg/m3			
7429-90-5	10 E mg/m3	20 E mg/m3			
7440-50-8	0.1 A mg/m3	0.4 A mg/m3			

- Belgium (Royal decree of 11/05/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-44-0	2 f/cc	-	-	-	-
7429-90-5	10 mg/m3	-	-	-	-
7440-50-8	1 mg/m3	-	-	-	-

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
7429-90-5	-	10	-	-	-	-
7440-50-8		1		2		

- Switzerland (Suva 2021) :

CAS	VME	VLE	Valeur plafond	Notations
7429-90-5	3 mg/m3			B
7440-50-8	0.1 mg/m3	0.2 mg/m3		SSC

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-44-0	4 mg/m3				
7429-90-5	2 mg/m3	-	-	-	-
7440-50-8	0.2 mg/m3	-	-	-	-

- USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7440-44-0	15 mg/m3				
7429-90-5	15 mg/m3	-	-	-	T
7440-50-8	1 mg/m3	-	-	-	-

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 ISO 16321.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.
Protect against electrolyte leakage.

- Body protection

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 inhaling dust.
Type of FFP mask :
Wear a disposable half-mask dust filter in accordance with standard EN149/A1.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state

Physical state :	Solid.
-	Batteries with a prismatic or cylindrical shape.

Colour

Colour:	Not stated.

Odour

Odour threshold :	Not stated.

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.

pH

pH (aqueous solution) :	Not stated.
pH :	Not relevant.

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

Density :	Not stated.

Relative vapour density

Vapour density :	Not stated.

Particle characteristics

The mixture does not contain nanoforms.

9.2. Other information

No data available.

9.2.1. Information with regard to physical hazard classes

No data available.

9.2.2. Other safety characteristics

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 :
- heat
- flames and hot surfaces
- humidity

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO2)
- hydrogen fluoride (HF)

SECTION 11 : TOXICOLOGICAL INFORMATION

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

No data available.

11.1.1. Substances

No toxicological data available for the substances.

11.1.2. Mixture

Acute toxicity :

Inhalation route (Dusts/mist) : No effect.

Skin corrosion/skin irritation :

Corrosivity : No observed effect.

Irritation : No observed effect.

Serious damage to eyes/eye irritation :

No observed effect.

11.2. Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substance evaluated as an endocrine disruptor with effects on human health.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.2. Mixtures

Fish toxicity : No observed effect.

Crustacean toxicity : No observed effect.

Algae toxicity : No observed effect.
LC50 <= 1 mg/l

Aquatic plant toxicity :

12.2. Persistence and degradability

12.2.1. Substances

POLY(VINYLIDENE FLUORIDE) (CAS: 24937-79-9)

Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

12.2.2. Mixtures

Biodegradation : No data on decomposition is available, the mixture is not considered to decompose rapidly.

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. Endocrine disrupting properties

The mixture does not contain any substance evaluated as an endocrine disruptor with environmental effects.

12.7. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV Annex I, KBws) :

Nicht wassergefährdend : Not 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, 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 2023 - IMDG 2022 [41-22] - ICAO/IATA 2024 [65]).

14.1. UN number or ID 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

The lithium ion batteries according to Section II/Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966~967 of the Dangerous Goods regulations 64th Edition may be transported.

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M4	-	9A	-	0	188 230 310 348 376 377 387 636	E0	2	E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation
	9	-	-	0	F-A. S-I	188 230 310 348 376 377 384 387	E0	Category A SW19	-

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 A213 A331 A334 A802	E0
	9	-	-	Forbidden	Forbidden	-	-	A88 A99 A154 A164 A183 A201 A213 A331 A334 A802	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. Maritime transport in bulk according to IMO instruments

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. 2023/707.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2024/197. (ATP 21)

Container information:

No data available.

Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):

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.

Explosives precursors :

The mixture contains at least one substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors:
- Aluminium, powders (CAS 7429-90-5)

Particular provisions :

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV Annex I, KBws) :

Nicht wassergefährdend : Not hazardous for water.

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 :

H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H251	Self-heating: may catch fire.

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms :

LC50 : The concentration of a test substance resulting in 50% lethality in a given period.
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.
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.
WGK : Wassergefahrdungsklasse (Water Hazard Class).
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.