BT740/2Li48

Product Safety Information Sheet

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis
Issue date: 15/01/2024 Version: 1.0

SECTION 1: Identification of the article and of the company/undertaking

1.1. Product identifier

Product form : Article
Trade name : BT740/2Li48

1.2. Relevant identified uses of the article and uses advised against

1.2.1. Relevant identified uses

Intended for general public
Main use category : Consumer use
Use of the article : Lithium ion batteries

1.2.2. Uses advised against

Restrictions on use : Any use other than those identified.

1.3. Details of the supplier of product safety information sheet

STIGA Italy S.p.A.
Via del Lavoro 6
31033 Castelfranco Veneto (TV)
Italy

Huizhou Blueway Electronics Co.,LTD.
Address: No.101,West Hechang 5th Road,Zhongkai High-Tech Development Zone,Huizhou,Guangdong,P.R.China.
P.C:516006

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not applicable to articles

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Contains no substances included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

Other information : The product is a Lithium ion cell or battery and is therefore classified as an article and is not hazardous when used according to the recommendations of the manufacturer. The hazard is associated with the contents of the cell or battery. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive provided that the cell or battery integrity remains and the seals remain intact. The potential for exposure should not exist unless the cell or battery leaks, is exposed to high temperatures or is mechanically, electrically or physically abused/damaged.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
cobalt lithium manganese nickel oxyde substance with a Community workplace exposure limit	CAS-No.: 182442-95-1 EC-No.: 480-390-0 REACH-no: -	41	Acute Tox. 2 (Inhalation:dust,mist), H330 (ATE=0.051 mg/l/4h) Carc. 1B, H350 STOT RE 1, H372 Aquatic Chronic 3, H412
Graphite	CAS-No.: 7782-42-5 EC-No.: 231-955-3 REACH-no: -	22	Not classified
Phosphate(1-), hexafluoro-, lithium	CAS-No.: 21324-40-3 EC-No.: 244-334-7 REACH-no: -	16	Acute Tox. 3 (Oral), H301 (ATE=50 mg/kg bodyweight) Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 1, H372
Copper	CAS-No.: 7440-50-8 EC-No.: 231-159-6 EC Index-No.: 029-024-00-X REACH-no: -	11	Aquatic Chronic 2, H411
aluminium powder (pyrophoric)	CAS-No.: 7429-90-5 EC-No.: 231-072-3 EC Index-No.: 013-001-00-6 REACH-no: -	5	Pyr. Sol. 1, H250 Water-react. 2, H261
Carbon black	CAS-No.: 1333-86-4 EC-No.: 215-609-9 REACH-no: -	1	Not classified
Styrene-butadiene rubber	CAS-No.: 9003-55-8 REACH-no: -	1	Not classified
Ethene, 1,1-difluoro-, homopolymer	CAS-No.: 24937-79-9 EC-No.: 607-458-6 REACH-no: -	1	Not classified
Cellulose, carboxymethyl ether, sodium salt	CAS-No.: 9004-32-4 EC-No.: 618-378-6 REACH-no: -	1	Not classified
Polypropylene	CAS-No.: 9003-07-0 EC-No.: 618-352-4 REACH-no: -	1	Not classified

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If contents of an opened battery are inhaled: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : If skin contact with contents of an open battery occurs: Wash skin with plenty of water.

First-aid measures after eye contact : If eye contact with contents of an open battery occurs: Rinse eyes with water as a precaution.

First-aid measures after ingestion : If ingestion of contents of an open battery occurs: Rinse mouth. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : For small fire: Dry chemical, CO2, or water spray or regular foam. For large fire: Water spray. Water fog. Foam.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the article

Hazardous decomposition products in case of fire : In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.

5.3. Advice for firefighters

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorerct polarity.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Keep out of direct sunlight. If the Li-ion Cell is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Li-ion Cell periodically. Storage temperature: 10℃~+40℃, 45 to 85%RH for 3 months; 0℃~+35℃ for long period storage.
Do not storage Li-ion Cell haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.

Incompatible materials : Acids. Oxidizing agents.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Copper (7440-50-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Copper
IOEL TWA	0.01 mg/m³ (respirable fraction)
Remark	(Year of adoption 2014)
Regulatory reference	SCOEL Recommendations
Austria - Occupational Exposure Limits	
Local name	Kupfer und seine Verbindungen
MAK (OEL TWA)	1 mg/m³ (als Cu berechnet, E) 0.1 mg/m³ (als Rauch, als Cu berechnet, A)
MAK (OEL STEL)	4 mg/m³ (als Cu berechnet, E, 4x 15(Miw) min) 0.4 mg/m³ (als Rauch, als Cu berechnet, A, 4x 15(Miw) min)
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Cuivre (en Cu) # Koper (als Cu)
OEL TWA	0.2 mg/m³ (fumées) # (rook) 1 mg/m³ (poussières et brouillards de) # (stof en nevel)
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Мед
OEL TWA	0.1 mg/m³ (метални пари (като мед)) 1 mg/m³ (оксиди и неорганични съединения (като мед))
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Bakar
GVI (OEL TWA)	0.2 mg/m³ dim (kao Cu) 1 mg/m³ prašina (kao Cu)
KGVI (OEL STEL)	2 mg/m³ prašina (kao Cu)

Copper (7440-50-8)	
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Czech Republic - Occupational Exposure Limits	
Local name	Měď
PEL (OEL TWA)	1 mg/m³ (prach) (V - vdechovatelná frakce aerosolu) 0.1 mg/m³ (dýmy) (R - respirabilní frakce aerosolu)
NPK-P (OEL C)	2 mg/m³ (prach) (V - vdechovatelná frakce aerosolu) 0.2 mg/m³ (dýmy) (R - respirabilní frakce aerosolu)
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 339/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Kobber
OEL TWA	1 mg/m³ pulver og støv 0.1 mg/m³ røg, beregnet som Cu
OEL STEL	2 mg/m³ (dust and powder) 0.2 mg/m³ (fume)
Regulatory reference	BEK nr 202 af 21/02/2023
Estonia - Occupational Exposure Limits	
Local name	Vask ja anorgaanilised ühendid (arvutatud vasele)
OEL TWA	1 mg/m³ kogu tolm 0.2 mg/m³ peentolm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 21.12.2022, 3)
Finland - Occupational Exposure Limits	
Local name	Kupari, metalli
HTP (OEL TWA)	0.02 mg/m³ Cu, alveolijae
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Cuivre
VME (OEL TWA)	0.2 mg/m³ (fumées) 1 mg/m³ (poussières), en Cu
VLE (OEL C/STEL)	2 mg/m³ (poussières), en Cu
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
OEL TWA	0.2 mg/m³ (fume) 1 mg/m³ (dust)
OEL STEL	2 mg/m³ (dust)
Hungary - Occupational Exposure Limits	
Local name	RÉZ és vegyületei (Cu-re számítva)
AK (OEL TWA)	0.1 mg/m³ 0.01 mg/m³ füst, respirábilis frakció
CK (OEL STEL)	0.2 mg/m³

Copper (7440-50-8)	
Remark	R (Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Copper (as Cu)
OEL TWA	0.2 mg/m³ Fume 1 mg/m³ Dusts and mists
OEL STEL	2 mg/m³ (dusts and mists) 0.6 mg/m³ (calculated-fume)
Regulatory reference	Chemical Agents Code of Practice 2021
Latvia - Occupational Exposure Limits	
Local name	Varš
OEL TWA	0.5 mg/m³
OEL STEL	1 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	1 mg/m³ (inhalable fraction) 0.2 mg/m³ (respirable fraction)
Netherlands - Occupational Exposure Limits	
Local name	Koper
TGG-8u (OEL TWA)	0.1 mg/m³ en anorganische koperverbindingen (inhaleerbaar)
Regulatory reference	Arbeidsomstandighedenregeling 2024
Poland - Occupational Exposure Limits	
Local name	Miedź i jej związki nieorganiczne
NDS (OEL TWA)	0.2 mg/m³ w przeliczeniu na Cu
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Cobre
OEL TWA	0.2 mg/m³ Fumos, expressos em Cu 1 mg/m³ Poeiras e névoas, expressos em Cu
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Cupru
OEL TWA	0.5 mg/m³ (Pulberi)
OEL STEL	0.2 mg/m³ (Fumuri) 1.5 mg/m³ (Pulberi)
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Slovakia - Occupational Exposure Limits	
Local name	Meď a jej anorganické zlúčeniny (ako Cu)
NPHV (OEL TWA)	1 mg/m³ inhalovateľná frakcia 0.2 mg/m³ respirabilná frakcia a dymy

Copper (7440-50-8)	
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Spain - Occupational Exposure Limits	
Local name	Cobre
VLA-ED (OEL TWA)	0.01 mg/m³ Fracción respirable
Remark	d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Sweden - Occupational Exposure Limits	
Local name	Koppar, och oorg. Föreningar (som Cu)
NGV (OEL TWA)	0.01 mg/m³ respirabel fraktion
Remark	3 (Den respirabla fraktionen är de inhalerbara partiklar som når längst ner i luftvägarna, till alveolerna i lungorna)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
Norway - Occupational Exposure Limits	
Local name	Kobber
Grenseverdi (OEL TWA)	0.1 mg/m³ Røyk 1 mg/m³ Støv
Korttidsverdi (OEL STEL)	3 mg/m³ (value calculated-dust) 0.3 mg/m³ (value calculated-fume)
Regulatory reference	FOR-2023-12-18-2278
USA - ACGIH - Occupational Exposure Limits	
Local name	Copper, as Cu
ACGIH OEL TWA	0.2 mg/m³ (Fume) 1 mg/m³ (Dusts and mists)
Remark (ACGIH)	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2024

Carbon black (1333-86-4)	
Belgium - Occupational Exposure Limits	
Local name	Carbone (noir de) # Koolzwart
OEL TWA	3 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Croatia - Occupational Exposure Limits	
Local name	Ugljik-crni
GVI (OEL TWA)	3.5 mg/m³
KGVI (OEL STEL)	7 mg/m³
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Czech Republic - Occupational Exposure Limits	
Local name	Amorfní uhlík (Carbon Black)
PEL (OEL TWA)	10 mg/m³ (pro celkovou koncentraci)
Remark	Prachy s převážně nespecifickým účinkem.

Carbon black (1333-86-4)	
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 339/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA	3.5 mg/m³
Remark	K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 202 af 21/02/2023
Finland - Occupational Exposure Limits	
Local name	Nokimusta
HTP (OEL TWA)	3.5 mg/m³
HTP (OEL STEL)	7 mg/m³
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Noir de carbone
VME (OEL TWA)	3.5 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
Local name	Αιθάλη
OEL TWA	3.5 mg/m³
OEL STEL	7 mg/m³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	Ipari korom [„Carbon Black”]
AK (OEL TWA)	3 mg/m³ belélegezhető koncentráció
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Carbon black
OEL TWA	3 mg/m³ I (Inhalable Fraction)
Regulatory reference	Chemical Agents Code of Practice 2021
Poland - Occupational Exposure Limits	
Local name	Sadza techniczna
NDS (OEL TWA)	4 mg/m³ frakcja wdychalna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Carbono, preto (Negro de fumo)
OEL TWA	3 mg/m³ I (Fraçao inalável)

Carbon black (1333-86-4)	
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Negro de humo
VLA-ED (OEL TWA)	3.5 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Norway - Occupational Exposure Limits	
Local name	Carbon Black (lampesot)
Grenseverdi (OEL TWA)	3.5 mg/m³
Regulatory reference	FOR-2023-12-18-2278
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon black
ACGIH OEL TWA	3 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: Bronchitis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2024

aluminium powder (pyrophoric) (7429-90-5)	
Austria - Occupational Exposure Limits	
Local name	Aluminium (als Metall)
MAK (OEL TWA)	10 mg/m³ (E)
MAK (OEL STEL)	20 mg/m³ (E, 2x 60(Miw) min)
Regulatory reference	BGBl. II Nr. 156/2021
Austria - Biological limit values	
Local name	Aluminium-haltige Stäube und Rauche
BLV	60 µg/g creatinine Parameter: Aluminium - Untersuchungsmaterial: Harn
Remark	Eignung mit vorzeitiger Folgeuntersuchung: Bei Überschreiten des Grenzwertes für Aluminium im Harn. Bei Vorliegen einer wesentlichen Beeinträchtigung der Lungenfunktion. Diese liegt vor, wenn nach mehrmaliger Messung der beste gemessene Wert den für den/die Untersuchte/n maßgebenden Sollwert um 20% unterschreitet, bzw. den MEF50-Sollwert um 50% unterschreitet. Eine vorzeitige Folgeuntersuchung ist jedoch nicht erforderlich, wenn im Vergleich zu Vorbefunden der altersabhängige physiologische Abfall der 1 Sekundenkapazität (FEV1) von 40 ml/Jahr nicht überschritten wird oder aus der Beurteilung des Kurvenverlaufes der Forcierten Vitalkapazität (FVC) eine eingeschränkte Mitarbeit des Untersuchten/der Untersuchten ersichtlich ist. Der Zeitabstand zwischen den Untersuchungen beträgt bei Eignung: ein Jahr; bei Eignung mit vorzeitiger Folgeuntersuchung: sechs Monate.
Regulatory reference	Verordnung über die Gesundheitsüberwachung am Arbeitsplatz 2017 (VGÜ 2017)
Belgium - Occupational Exposure Limits	
Local name	Aluminium # Aluminium
OEL TWA	2 mg/m³ (composés alkylés) (en Al) # Aluminiumalkylen (als Al) 1 mg/m³ (métal et composés insolubles, fraction alvéolaire) # (metaal en onoplosbare verbindingen, inadembare fractie)
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023

aluminium powder (pyrophoric) (7429-90-5)	
Bulgaria - Occupational Exposure Limits	
Local name	Алуминий
OEL TWA	10 mg/m³ (метален прах и оксиди). (инхалабилна фракция) 1.5 mg/m³ (метален прах и оксиди). (респирабилна фракция) 2 mg/m³ (неорганични разтворими съединения (като алуминий))
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Aluminij
GVI (OEL TWA)	10 mg/m³ U (ukupna prašina) 4 mg/m³ R (respirabilna prašina)
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Croatia - Biological limit values	
Local name	Aluminij
BLV	200 µg/l Karakteristični pokazatelj: aluminij - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/2018)
Czech Republic - Occupational Exposure Limits	
Local name	Hliník a jeho oxidy (s výjimkoy gama Al2O3)
PEL (OEL TWA)	10 mg/m³ (pro celkovou koncentraci)
Remark	Prachy s převážně nespecifickým účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 339/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Aluminium, pulver og støv
OEL TWA	5 mg/m³ total 2 mg/m³ respirabel
Regulatory reference	BEK nr 202 af 21/02/2023
Estonia - Occupational Exposure Limits	
Local name	Alumiinium, metalliline ja oksiidid
OEL TWA	10 mg/m³ kogu tolm 4 mg/m³ peentolm
Remark	1 (Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingatava õhuga kopsu alveoolidesse (respireeritav fraktsioon))
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 21.12.2022, 3)
France - Occupational Exposure Limits	
Local name	Aluminium
VME (OEL TWA)	10 mg/m³ (métal) 5 mg/m³ (pulvérulent)
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)

aluminium powder (pyrophoric) (7429-90-5)	
Germany - Biological limit values (TRGS 903)	
Local name	Aluminium
Biological limit value	50 µg/g creatinine Parameter: Aluminium - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: c) bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten - Festlegung/Begründung: 11/2018 DFG
Regulatory reference	TRGS 903
Hungary - Occupational Exposure Limits	
Local name	ALUMINIUM (oldható, AL-ra számolva)
AK (OEL TWA)	1 mg/m³ respirábilis frakció
Remark	N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Hungary - Biological Exposure Indices	
Local name	Alumínium
BEI	0.06 mg/g creatinine Biológiai expozíciós (hatás) mutató: alumínium - Biológiai minta: vizeletben - Mintavétel ideje: n.k. (nem kritikus) 0.25 µmol/mmol Creatinine Biológiai expozíciós (hatás) mutató: alumínium - Biológiai minta: vizeletben - Mintavétel ideje: n.k. (nem kritikus)
Remark	A foglalkozási vegyi expozíció esetén ajánlott biológiai expozíciós és hatásmutatók határértékei
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Aluminium metal
OEL TWA	1 mg/m³ R (Respirable Fraction)
Regulatory reference	Chemical Agents Code of Practice 2021
Latvia - Occupational Exposure Limits	
Local name	Alumīnijs un tā sakausējumi (pēc alumīnija)
OEL TWA	2 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Poland - Occupational Exposure Limits	
Local name	Glin metaliczny, glin proszek (niestabilizowany)
NDS (OEL TWA)	2.5 mg/m³ frakcja wdychalna 1.2 mg/m³ frakcja respirabilna
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Frakcja respirabilna – frakcja aerozolu wnikająca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Alumínio e compostos insolúveis, expresso em Al
OEL TWA	1 mg/m³ R (Fração respirável)

aluminium powder (pyrophoric) (7429-90-5)	
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
Local name	Hliník kovový
NPHV (OEL TWA)	4 mg/m³ inhalovateľná frakcia – prach 1.5 mg/m³ respirabilná frakcia – prach
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovakia - Biological limit values	
Local name	Hliník
BLV	60 µg/g creatinine Zisťovaný faktor: Hliník - Vyšetrovaný materiál: moč - Čas odberu vzorky: a) žiadne obmedzenie
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (Zmena: 471/2011 Z.z.)
Slovenia - Biological limit values	
Local name	aluminij
BLV	50 µg/l Parameter: aluminij - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmeneob koncu delovne izmene, pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	Aluminio
VLA-ED (OEL TWA)	1 mg/m³ Fracción respirable
Remark	d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Norway - Occupational Exposure Limits	
Local name	Aluminiumpulver (pyroteknikk)
Grenseverdi (OEL TWA)	5 mg/m³
Regulatory reference	FOR-2023-12-18-2278
USA - ACGIH - Occupational Exposure Limits	
Local name	Aluminum metal and insoluble compounds
ACGIH OEL TWA	1 mg/m³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis; LRT irr; neurotoxicity. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

Polypropylene (9003-07-0)	
Czech Republic - Occupational Exposure Limits	
Local name	Prach polypropylenu
PEL (OEL TWA)	5 mg/m³
Remark	Prachy s převážně dráždivým účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 339/2023 Sb.)

Polypropylene (9003-07-0)	
Lithuania - Occupational Exposure Limits	
Local name	Polipropilenas (nestabilizuotas)
IPRV (OEL TWA)	10 mg/m³
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)

cobalt lithium manganese nickel oxyde (182442-95-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0.05 mg/m³ MANGANESE AND INORGANIC MANGANESE COMPOUNDS (AS MN) (RESPIRABLE FRACTION)
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	0.05 mg/m³ MANGAN UND SEINE ANORGANISCHEN VERBINDUNGEN EINSCHLIEßLICH TRIMANGANTETROXID (ALS MN BERECHNET), ALVEOLENGäNGIGER FRAKTION
MAK (OEL STEL)	0.16 mg/m³ MANGAN UND SEINE ANORGANISCHEN VERBINDUNGEN EINSCHLIEßLICH TRIMANGANTETROXID (ALS MN BERECHNET), ALVEOLENGäNGIGER FRAKTION
TRK (OEL TWA)	0.05 mg/m³ Nickelverbindungen in Form einatembarer Tröpfchen Berechnet als Ni für den gesamten einatembaren Anteil (einatembare fraktion)
Bulgaria - Occupational Exposure Limits	
OEL TWA	0.1 mg/m³ Кобалт и неорганични съединения (като кобалт) 0.05 mg/m³ Манган-оксид и неорганични съединения (като манган) (Инхалабилна фракция) 0.05 mg/m³ Никел - метал, и съединения (като никел)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	0.1 mg/m³ Kobalt i spojevi (kao Co) 0.05 mg/m³ Mangan i njegovi anorganski spojevi (kao Mn) [Respirable Dust] 0.01 mg/m³ Nikal - anorganski spojevi osim nikal-tetrakarbonila - topivi u vodi (kao Ni) (karcinogeni su oksidi i sulfidi)
Czech Republic - Occupational Exposure Limits	
NPK-P (OEL C)	0.1 mg/m³ Kobalt a jeho sloučeniny, jako Co, vdechovatelná frakce aerosolu 0.05 mg/m³ Mangan-jeho anorganické sloučeniny, jako Mn, respirabilní frakce aerosolu 0.25 mg/m³ Niklu sloučeniny, jako Ni (s výjimkou nikltetrakarbonylu), vdechovatelná frakce aerosolu
Denmark - Occupational Exposure Limits	
OEL TWA	0.01 mg/m³ COBALT, PULVER, STøV, RøG OG UORGANISKE FORBINDELSER, BEREGNET SOM CO 0.2 mg/m³ MANGAN, PULVER, STøV OG UORGANISKE FORBINDELSER, BEREGNET SOM MN
Estonia - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ Koobalt ja anorgaanilised ühendid (arvutatud koobaltile) 0.05 mg/m³ Mangaan ja anorgaanilised ühendid (arvutatudmangaanile), kogu tolm (respireeritav fraktsioon)
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	0.02 mg/m³ Mangaani ja sen epäorgaaniset yhdisteet (kuin Mn, alveolijae) 0.02 mg/m³ Koboltti ja sen epäorgaaniset yhdisteet 0.01 mg/m³ Koboltti ja sen epäorgaaniset yhdisteet

cobalt lithium manganese nickel oxyde (182442-95-1)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	0.2 mg/m³ LITHIUMVERBINDUNGEN, ANORGANISCHE, MIT AUS-NAHME VON LITHIUM UND STäRKER REIZENDEN LITHI-UMVERBINDUNGEN (ALS LI BERECHNET), EINATEMBARE FRAKTION 0.02 mg/m³ MANGAN UND SEINE ANORGANISCHEN VERBINDUNGEN (ALS MN BERECHNET), ALVEOLENGäNGIGE FRAKTION 0.03 mg/m³ NICKEL UND NICKELVERBINDUNGEN 0.02 mg/m³ COBALT AND INORGANIC COMPOUNDS, AS CO (ACGIH)
Germany - Occupational Exposure Limits (TRGS 910)	
Acceptable concentration (Weight conc.)	0.5 µg/m³ Cobalt und Cobaltverbindungen, als Carc.1A, Carc.1B eingestuft (Alveolengängige Fraktion) 6 µg/m³ Nickelverbindungen, als Carc. 1A, Carc. 1B eingestuft (Alveolengängige Fraktion)
Tolerance concentration (Weight conc.)	5 µg/m³ Cobalt und Cobaltverbindungen, als Carc.1A, Carc.1B eingestuft (Alveolengängige Fraktion) 6 µg/m³ Nickelverbindungen, als Carc. 1A, Carc. 1B eingestuft (Alveolengängige Fraktion)
Greece - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ Μαγγάνιο και ενώσεις του (Αναπνεύσιμο κλάσμα) (ως Μαγγάνιο)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	0.1 mg/m³ Kobalt és szervetlen vegyületei (Co-ra számítva)
CK (OEL STEL)	0.4 mg/m³ Kobalt és szervetlen vegyületei (Co-ra számítva)
Ireland - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ MANGANESE AND INORGANIC MANGANESE COMPOUNDS (AS MN) (RESPIRABLE FRACTION) 0.02 mg/m³ COBALT & COBALT COMPOUNDS
Italy - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ Manganese e composti inorganici del manganese (espresso come manganese) (Frazione inalabile) 0.02 mg/m³ Cobalto elemento e composti inorganici, come Co
Latvia - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ Mangāns un tā neorganiskie savienojumi, frakcija, kas var nonākt elpceļos (pēc mangāna)
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	0.05 mg/m³ Kobaltas ir jo neorganinai junginiai (kaip Co) 0.05 mg/m³ Manganas ir jo neorganiniai junginiai (kaip Mn): alveolinė frakcija
Luxembourg - Occupational Exposure Limits	
OEL TWA	0.05 Manganèse et ses composes inorganiques (exprimés en manganèse) (fraction alvéolaire
Netherlands - Occupational Exposure Limits	
TGG-15min (OEL STEL)	0.05 mg/m³ Mangaan en anorganische mangaan-verbindingen (als mangaan) (inhaleerbaar)
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	0.02 mg/m³ Kobalt i jego związki nieorganiczne, w przeliczeniu na Co 0.05 mg/m³ Mangan i jego związki nieorganiczne, frakcja respirabilna, w przeliczeniu na Mn 0.25 mg/m³ Nikiel i jego związki, z wyjątkiem tetrakarbonylku niklu (niklu karbonylku), w przeliczeniu na Ni

cobalt lithium manganese nickel oxyde (182442-95-1)	
Portugal - Occupational Exposure Limits	
OEL TWA	0.02 mg/m³ MANGANêS E COMPOSTOS INORGâNICOS, EXPRESSOS EM MN, FRAçãO RESPIRáVEL 0.02 mg/m³ COBALTO E COMPOSTOS INORGâNICOS, EXPRESSOS EM CO
Romania - Occupational Exposure Limits	
OEL TWA	0.05 mg/m³ Mangan şi compuşi anorganici de mangan (fracţie inhalabilă) (exprimaţi în Mn) 0.1 mg/m³ Nichel şi compuşi (exprimaţi în Ni)
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	0.05 mg/m³ kobalt a jeho zlúčeniny (ako Co) 0.05 mg/m³ mangán a jeho anorganické zlúčeniny (ako mangán), inhalovateľná frakcia
Slovenia - Occupational Exposure Limits	
OEL TWA	0.2 mg/m³ litijeve spojine-anorganske razen litija [inhalabilna frakcija] 0.05 mg/m³ mangan in anorganske spojine (računano kot Mg) [alveolarna frakcija]
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	0.05 mg/m³ Compuestos inorgánicos de Manganeso, como Mn, Fracción inhalabl 0.02 mg/m³ Compuestos inorgánicos de cobalto, excepto los expresamente indicados, como Co
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	0.05 mg/m³ Mangan och oorg. föreningar (som Mn), inhalerbar damm 0.02 mg/m³ Kobolt och oorg. föreningar (som Co), inhalerbart damm 0.02 mg/m³ Litium, och föreningar (som Li), Inhalerbart damm

Graphite (7782-42-5)	
Austria - Occupational Exposure Limits	
Local name	Graphit
MAK (OEL TWA)	5 mg/m³ (A)
MAK (OEL STEL)	10 mg/m³ (A, 2x 60(Miw) min)
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Graphite (excepté fibres) (fraction alvéolaire) # Grafiet (vezels uitgezonderd) (inadembare fractie)
OEL TWA	2 mg/m³
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Графит
OEL TWA	5 mg/m³ (inhalable fraction) 3.5 mg/m³ Прах неразтворим, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната фракция (несъдържащ влакнести частици), непосочен в приложението, Инхалабилна фракция
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	Prašina grafita

Graphite (7782-42-5)	
GVI (OEL TWA)	4 mg/m³ Respirable dust
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Cyprus - Occupational Exposure Limits	
OEL TWA	10 mg/m³
Czech Republic - Occupational Exposure Limits	
Local name	Grafit
PEL (OEL TWA)	2 mg/m³ Graphite, dust, respirable fraction, Fr ≤ 5%
Remark	Prachy s převážně fibrogennúm účinkem.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 339/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Grafit, naturlig
OEL TWA	2.5 mg/m³ respirabel
OEL STEL	2.5 mg/m³ GRAFIT, NATURLIG, RESPIRABEL
Regulatory reference	BEK nr 202 af 21/02/2023
Estonia - Occupational Exposure Limits	
OEL TWA	5 mg/m³ (dust) 1 mg/m³ Dust, inorganic: textile 3 mg/m³ Dust, inorganic: plastic
Finland - Occupational Exposure Limits	
Local name	Grafiitti
HTP (OEL TWA)	2 mg/m³ (respirable fraction)
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Graphite
VME (OEL TWA)	2 mg/m³ FRACTION ALVéOLAIRE
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	1.25 mg/m³ ALLGEMEINER STAUBGRENZWERT, ALVEOLENGäNGIGE FRAKTION 10 mg/m³ ALLGEMEINER STAUBGRENZWERT, EINATEMBARE FRAKTION
Greece - Occupational Exposure Limits	
Local name	Γραφίτης
OEL TWA	5 mg/m³ (respirable fraction)
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	Grafit por
AK (OEL TWA)	6 mg/m³ Other inert dusts, respirable
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről

Graphite (7782-42-5)	
Ireland - Occupational Exposure Limits	
Local name	Graphite (all forms except fibres)
OEL TWA	2 mg/m³ (respirable dust)
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
Local name	Grafite
OEL TWA	2 mg/m³ Grafite (tutte le forme, escluso le fibre di grafite), frazione respirabile
Latvia - Occupational Exposure Limits	
OEL TWA	2 mg/m³ Carbon dust - natural and artificial diamonds, graphite
Lithuania - Occupational Exposure Limits	
Local name	Anglies dulkės (įskaitant suodžius)
IPRV (OEL TWA)	3 mg/m³ Anglies dulkės (įskaitant suodžius) 0.05 mg/m³ Išmetamosios dujos (variklių): pagal elementinę anglį
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Poland - Occupational Exposure Limits	
Local name	Grafit naturalny
NDS (OEL TWA)	1 mg/m³ (respirable dust)
Remark	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Frakcja respirabilna – frakcja aerozolu wnikająca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Regulatory reference	Dz. U. 2018 poz. 1286 wraz z późn. zm.
Portugal - Occupational Exposure Limits	
Local name	Grafite (todas as formas excepto fibras de grafite)
OEL TWA	2 mg/m³ R (Fração respirável)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
OEL TWA	2 mg/m³
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA)	2 mg/m³ Graphite, respirable fraction, Fr ≤ 5%
Slovenia - Occupational Exposure Limits	
OEL TWA	1.25 mg/m³ prah [alveolarna frakcija]
Spain - Occupational Exposure Limits	
Local name	Grafito
VLA-ED (OEL TWA)	2 mg/m³ GRAFITO, POLVO, FRACCIóN RESPIRABLE
Remark	d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	2.5 mg/m³ Damm, oorganiskt, respirabelt damm 0.2 mg/m³ Fibrer, syntetiska oorg. kristallina fibrer: Grafitfibrer

Graphite (7782-42-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
ACGIH OEL TWA	2 mg/m³ (respirable fraction)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2024

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
In case of rupture or during battery component disassembly wear personal protective equipment.

8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or safety glasses. ISO 16321-1

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves. ISO 374-1. Breakthrough time : > 480 min. Layer thickness : > 0,11 mm

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment (EN 136/140/145)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Green.
Appearance	:	Battery.
Odour	:	Odourless.

Odour threshold	:	Not determined
Melting point	:	Not determined
Freezing point	:	Not applicable
Boiling point	:	Not determined
Flammability	:	Not determined Non flammable.
Explosive properties	:	Not determined.
Oxidising properties	:	Not determined.
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not determined
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Solubility	:	Not determined.
Partition coefficient n-octanol/water (Log Kow)	:	Not applicable
Vapour pressure	:	Not determined
Vapour pressure at 50°C	:	Not determined
Density	:	Not determined
Relative density	:	Not determined
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not determined
Particle size distribution	:	Not determined
Particle shape	:	Not determined
Particle aggregation state	:	Not determined Not determined
Particle specific surface area	:	Not determined
Particle dustiness	:	Not determined

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

High temperature. Do not subject Li-ion Cell to mechanical shock. Do not disassemble, crush, short or install with incorrect polarity.

10.5. Incompatible materials

Acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of fire: Carbon monoxide. Carbon dioxide (CO2). lithium oxide fumes.

SECTION 11: Toxicological information

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

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

BT740/2Li48	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Contains no substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 %.

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute)	:	Not classified
Hazardous to the aquatic environment, long–term (chronic)	:	Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

BT740/2Li48

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 %.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3480	UN 3480	UN 3480	UN 3480	UN 3480
14.2. UN proper shipping name				
LITHIUM ION BATTERIES	LITHIUM ION BATTERIES	Lithium ion batteries	LITHIUM ION BATTERIES	LITHIUM ION BATTERIES
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : M4
Special provisions (ADR) : 188, 230, 310, 348, 376, 377, 387, 636
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0

Packing instructions (ADR)	:	P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
Transport category (ADR)	:	2
Tunnel restriction code (ADR)	:	E

Transport by sea

Special provisions (IMDG)	:	188, 230, 310, 348, 376, 377, 384, 387
Limited quantities (IMDG)	:	0
Excepted quantities (IMDG)	:	E0
Packing instructions (IMDG)	:	P903, P908, P909 , P910, P911, LP903, LP904, LP905, LP906
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-I
Stowage category (IMDG)	:	A
Stowage and handling (IMDG)	:	SW19
Properties and observations (IMDG)	:	Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.

Air transport

PCA Excepted quantities (IATA)	:	E0
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	Forbidden
PCA max net quantity (IATA)	:	Forbidden
CAO packing instructions (IATA)	:	See 965
CAO max net quantity (IATA)	:	See 965
Special provisions (IATA)	:	A88, A99, A154, A164, A183, A201, A213, A331, A334, A802
ERG code (IATA)	:	12FZ

Inland waterway transport

Classification code (ADN)	:	M4
Special provisions (ADN)	:	188, 230, 310, 348, 376, 377, 387, 636
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E0
Equipment required (ADN)	:	PP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	M4
Special provisions (RID)	:	188, 230, 310, 348, _376, 377, 387, 636
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E0
Packing instructions (RID)	:	P903, 908, 909, P910, P911, LP903, LP904, LP905, LP906
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE2
Hazard identification number (RID)	:	90

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the article

15.1.1. EU-Regulations

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified

Abbreviations and acronyms:	
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H250	Catches fire spontaneously if exposed to air.
H261	In contact with water releases flammable gases.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Pyr. Sol. 1	Pyrophoric Solids, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2