



MT606G, MT606FG, MT605G

GME Pty Ltd

Chemwatch: 7916-45

Version No: 2.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Issue Date: 30/10/2024

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S.GHS.AUS.EN.E

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

Product Identifier

Product name	MT606G, MT606FG, MT605G
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Emergency position indicating radio beacon NOTE: Hazard statement relates to battery contents. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically, physically or electrically abused. Use according to manufacturer's directions.
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	GME Pty Ltd
Address	17 Gibbon Road, Winston Hills, NSW 2153 Australia
Telephone	+61 288 676 000 +61 288 676 199
Fax	Not Available
Website	gme.net.au
Email	enquiries@gme.net.au

Emergency telephone number

Association / Organisation	GME Pty Ltd
Emergency telephone number(s)	+61 418 995 181 (Mon-Fri 9am to 6pm)
Other emergency telephone number(s)	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification ^[1]	Skin Corrosion/Irritation Category 1B, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1, Carcinogenicity Category 1A, Reproductive Toxicity Category 1B, Specific Target Organ Toxicity - Repeated Exposure Category 1, Hazardous to the Aquatic Environment Acute Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
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Signal word	Danger
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Hazard statement(s)

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H350	May cause cancer.

H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P363	Wash contaminated clothing before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.
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Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available		sealed case containing,
1309-36-0	28-38	<u>iron disulfide (pyrites) granular</u>
65997-19-5	18-22	<u>Stainless Steel</u>
646-06-0	5-9	<u>1,3-dioxolane</u>
7439-93-2	5.4-6.6	<u>lithium</u>
110-71-4	2-4	<u>1,2-dimethoxyethane</u>
1333-86-4	0-4	<u>carbon black</u>
7782-42-5	0-4	<u>graphite</u>
10377-51-2	0.3-3	<u>lithium iodide</u>
7440-43-9	NotSpec	<u>cadmium</u>
7439-92-1	NotSpec	<u>lead</u>
7439-97-6	NotSpec	<u>mercury (elemental)</u>
59536-65-1	NotSpec	<u>polybrominated biphenyls</u>
Not Available	NotSpec	polybrominated diphenyl ethers
Not Available	NotSpec	brominated and chlorinated organic compounds used as flame retardants
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	<p>If battery is leaking and material contacts the eye.</p> <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">▶ Immediately hold eyelids apart and flush the eye continuously with running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
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	<ul style="list-style-type: none">▶ Transport to hospital or doctor without delay.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.▶ Generally not applicable.
Skin Contact	<p>If battery is leaking and material contacts the skin.</p> <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none">▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.▶ Quickly remove all contaminated clothing, including footwear.▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.▶ Transport to hospital, or doctor.▶ Generally not applicable.
Inhalation	<p>If battery is leaking, contents may be irritating to respiratory passages.</p> <ul style="list-style-type: none">▶ If fumes or combustion products are inhaled remove from contaminated area.▶ Lay patient down. Keep warm and rested.▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.▶ Transport to hospital, or doctor.▶ Generally not applicable.
Ingestion	<ul style="list-style-type: none">▶ For advice, contact a Poisons Information Centre or a doctor at once.▶ Urgent hospital treatment is likely to be needed.▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Transport to hospital or doctor without delay.▶ Generally not applicable.

Indication of any immediate medical attention and special treatment needed

- Treat symptomatically.
- ▶ In cases of nickel poisoning, dimercaptol delivered by deep intramuscular injection may be a suitable antidote. (Patients should not exhibit renal or hepatic dysfunction.) The use of diethyldithiocarbamate is the subject of ongoing research.
 - ▶ Irritant contact dermatoses or eczemas may respond to applications of weak antiseptic packs, antibiotic ointments (tetracycline or erythromycin) or inert pastes and ointments. Systemic antibiotics are advisable in the presence of lymphangitis or lymphadenitis.
 - ▶ Chronic exposures to cobalt and its compounds results in the so-called "hard metal pneumoconiosis" amongst industrial workers. The lesions consist of nodular conglomerate shadows in the lungs, together with peribronchial infiltration. The disease may be reversible. The acute form of the disease resembles a hypersensitivity reaction with malaise, cough and wheezing; the chronic form progresses to cor pulmonale.
 - ▶ Chronic therapeutic administration may cause goiter and reduced thyroid activity.
 - ▶ An allergic dermatitis, usually confined to elbow flexures, the ankles and sides of the neck, has been described.
 - ▶ Cobalt cardiomyopathy may be diagnosed early by changes in the final part of the ventricular ECG (repolarisation). In the presence of such disturbances, the changes in carbohydrate metabolism (revealed by the glucose test) are of important diagnostic value.
 - ▶ Treatment generally consists of a combination of Retabolil (1 injection per week over 4 weeks) and beta-blockers (average dose 60-80 mg Obsidan/24 hr). Potassium salts and diuretics have also proved useful.

BIOLOGICAL EXPOSURE INDEX (BEI)			
Determinant	Sampling time	Index	Comments
Cobalt in urine	End of shift at end of workweek	15 ug/L	B
Cobalt in blood	End of shift at end of workweek	1 ug/L	B, SQ

B: Background levels occur in specimens collected from subjects NOT exposed

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

SECTION 5 Firefighting measures

Extinguishing media

- Metal dust fires need to be smothered with sand, inert dry powders.
- DO NOT USE WATER, CO2 or FOAM.**
- ▶ Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1 or Met L-X to smother fire.
 - ▶ Confining or smothering material is preferable to applying water as chemical reaction may produce flammable and explosive hydrogen gas.
 - ▶ Chemical reaction with CO2 may produce flammable and explosive methane.
 - ▶ If impossible to extinguish, withdraw, protect surroundings and allow fire to burn itself out.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none">▶ When silica dust is dispersed in air, firefighters should wear inhalation protection as hazardous substances from the fire may be adsorbed on the silica particles.▶ When heated to extreme temperatures, (>1700 deg.C) amorphous silica can fuse.▶ Alert Fire Brigade and tell them location and nature of hazard.▶ Wear breathing apparatus plus protective gloves.▶ Prevent, by any means available, spillage from entering drains or water courses.▶ Use water delivered as a fine spray to control fire and cool adjacent area.▶ DO NOT approach containers suspected to be hot.▶ Cool fire exposed containers with water spray from a protected location.▶ If safe to do so, remove containers from path of fire.▶ Equipment should be thoroughly decontaminated after use. <p>Slight hazard when exposed to heat, flame and oxidisers.</p>
Fire/Explosion Hazard	<ul style="list-style-type: none">▶ Non combustible.▶ Not considered to be a significant fire risk, however containers may burn.▶ In a fire may decompose on heating and produce toxic / corrosive fumes.
HAZCHEM	4Y

SECTION 6 Accidental release measures

MT606G, MT606FG, MT605G

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Secure load if safe to do so. ▶ Bundle/collect recoverable product. ▶ Collect remaining material in containers with covers for disposal.
Major Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Wear protective clothing, safety glasses, dust mask, gloves. ▶ Secure load if safe to do so. Bundle/collect recoverable product. ▶ Use dry clean up procedures and avoid generating dust. ▶ Vacuum up (consider explosion-proof machines designed to be grounded during storage and use). ▶ Water may be used to prevent dusting. ▶ Collect remaining material in containers with covers for disposal. ▶ Flush spill area with water.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ DO NOT allow material to contact humans, exposed food or food utensils. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

Suitable container	<p>Generally packaging as originally supplied with the article or manufactured item is sufficient to protect against physical hazards. If repackaging is required ensure the article is intact and does not show signs of wear. As far as is practicably possible, reuse the original packaging or something providing a similar level of protection to both the article and the handler.</p>
Storage incompatibility	<p>Lithium metal:</p> <ul style="list-style-type: none"> ▶ may ignite spontaneously in air when it exists as finely divided particles or powders ▶ forms corrosive fumes of lithium hydroxide when in contact with water ▶ reacts violently with water, releasing heat, flammable hydrogen gas, corrosive fumes and forming strong caustic solutions ▶ is air sensitive and reacts with nitrogen gas at high temperatures ▶ reacts violently with oxidisers, acetonitrile, arsenic, alcohols, beryllium, bromine pentafluoride, bromobenzene, carbides, carbon dioxide, carbon tetrachloride, chlorine, chlorine trifluoride, chlorine pentafluoride, chromium, chromium trichloride, cobalt and its alloys, diazomethane, diborane, glycols, iron alloys, magnesium alloys, maleic anhydride, mercury, metal oxides, nickel alloys, nitric acid, nitrogen, organic matter, oxygen, phosphorus, silicates, sulfur, vanadium and many other substances ▶ in moist conditions readily undergoes an exothermic reaction with nitrogen at room temperature to form the nitride ▶ forms friction- and impact-sensitive explosive mixtures with halogens, halocarbons, diborane, methyl dichloride, methyl diiodide, and other substances ▶ is incompatible with atmospheric gases, diazomethane, hydrogen, iron(II) sulfide, manganese telluride, metal chlorides, nonmetal oxides, platinum, trimethyl hypofluorite and other substances ▶ attacks plastics, rubber ▶ when molten attacks ceramic materials, concrete, sand ▶ attacks metal alloys, cobalt, iron manganese, nickel ▶ reacts violently with most standard fire extinguishers: water, carbon dioxide, foam, halogenated agents, sodium carbonate, sodium chloride and other dry powders (in case of fire Class D extinguishers or smothering quantities of dry sand, crushed limestone or clay recommended). <p>NOTE: . Argon should be used as an inert atmosphere for lithium metal reactions</p> <ul style="list-style-type: none"> ▶ Sulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. ▶ Many reactions of sulfides with these materials generate heat and in many cases hydrogen gas. ▶ Many sulfide compounds may liberate hydrogen sulfide upon reaction with an acid. ▶ Avoid reaction with oxidising agents ▶ Keep dry ▶ NOTE: May develop pressure in containers; open carefully. Vent periodically.

SECTION 8 Exposure controls / personal protection

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Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	carbon black	Carbon black	3 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	graphite	Graphite (all forms except fibres) (respirable dust) (natural & synthetic)	3 mg/m3	Not Available	Not Available	(e) Containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	cadmium	Cadmium and compounds (as Cd)	0.01 mg/m3	Not Available	Not Available	(g) Some compounds in these groups are classified as carcinogenic or as sensitisers. Check individual classification details on the safety data sheet for information on classification.
Australia Exposure Standards	mercury (elemental)	Mercury, elemental vapour (as Hg)	0.003 ppm / 0.025 mg/m3	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
iron disulfide (pyrites) granular	Not Available	Not Available
Stainless Steel	Not Available	Not Available
1,3-dioxolane	Not Available	Not Available
lithium	Not Available	Not Available
1,2-dimethoxyethane	Not Available	Not Available
carbon black	1,750 mg/m3	Not Available
graphite	1,250 mg/m3	Not Available
lithium iodide	Not Available	Not Available
cadmium	9 mg/m3	Not Available
lead	Not Available	Not Available
mercury (elemental)	10 mg/m3	Not Available
polybrominated biphenyls	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
iron disulfide (pyrites) granular	E	≤ 0.01 mg/m³
Stainless Steel	E	≤ 0.01 mg/m³
lithium	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)
1,2-dimethoxyethane	E	≤ 0.1 ppm
lithium iodide	E	≤ 0.01 mg/m³
lead	D	> 0.01 to ≤ 0.1 mg/m³
polybrominated biphenyls	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

Exposure controls

Appropriate engineering controls	Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Exceptions may arise following extensive use and subsequent wear, during recycling or disposal operations where substances, found in the article, may be released to the environment. General exhaust is adequate under normal operating conditions.
Individual protection measures, such as personal protective equipment	
Eye and face protection	None under normal operating conditions. OTHERWISE: <ul style="list-style-type: none">▶ Safety glasses with side shields.▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].
Skin protection	See Hand protection below
Hands/feet protection	NOTE: <ul style="list-style-type: none">▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. None under normal operating conditions. OTHERWISE: <ul style="list-style-type: none">▶ Wear chemical protective gloves, e.g. PVC.

	▶ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ▶ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.

Recommended material(s)**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

MT606G, MT606FG, MT605G

Material	CPI
BUTYL	A

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type AHG-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AHG-AUS P2	-	AHG-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AHG-AUS / Class 1 P2	-
up to 100 x ES	-	AHG-2 P2	AHG-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Respiratory protection not normally required due to the physical form of the product. Where significant concentrations of the material are likely to enter the breathing zone, a Class P3 respirator may be required.

Class P3 particulate filters are used for protection against highly toxic or highly irritant particulates.

Filtration rate: Filters at least 99.95% of airborne particles

Suitable for:

· Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.

· Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.

· Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

· Highly toxic particles e.g. Organophosphate Insecticides, Radionuclides, Asbestos

Note: P3 Rating can only be achieved when used with a Full Face Respirator or Powered Air-Purifying Respirator (PAPR). If used with any other respirator, it will only provide filtration protection up to a P2 rating.

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Battery with individual lithium iron disulfide cells.		
Physical state	Manufactured	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

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Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation. Not normally a hazard due to physical form of product.
Ingestion	Contents of a cell if opened destructively or leaking may be harmful if swallowed. Not normally a hazard due to physical form of product.
Skin Contact	Contact with battery contents will cause irritation. A shorted lithium battery can cause thermal and chemical burns upon contact with skin. Not normally a hazard due to physical form of product.
Eye	Contents of a cell if opened destructively or leaking may be harmful if swallowed. If applied to the eyes, this material causes severe eye damage. Not normally a hazard due to physical form of product.
Chronic	The chemicals in this product are contained in a sealed case and exposure does not occur during normal handling and use. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation. [Manufacturer] Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is sufficient evidence to suggest that this material directly causes cancer in humans. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. 5456r

MT606G, MT606FG, MT605G	TOXICITY	IRRITATION
	Not Available	Not Available
iron disulfide (pyrites) granular	TOXICITY	IRRITATION
	Not Available	Not Available
Stainless Steel	TOXICITY	IRRITATION
	Not Available	Not Available
1,3-dioxolane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 8480 mg/kg ^[2]	Eye (Rodent - rabbit): 0.1mL
	Inhalation (Rat) LC50: 20.65 mg/L4h ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
		Skin (Rodent - rabbit): 0.5mL - Mild
		Skin (Rodent - rabbit): 530mg - Mild
lithium	TOXICITY	IRRITATION
	Not Available	Eye: adverse effect observed (irritating) ^[1]
		Skin: adverse effect observed (corrosive) ^[1]
1,2-dimethoxyethane	TOXICITY	IRRITATION
	Dermal (Guinea Pig) LD50: 5 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: 3000 ppm4h ^[2]	Skin: adverse effect observed (irritating) ^[1]
	Oral (Rabbit) LD50: 320 mg/kg ^[2]	
carbon black	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]

	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
graphite	TOXICITY	IRRITATION
	Inhalation (Rat) LC50: >2 mg/L4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >200 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
lithium iodide	TOXICITY	IRRITATION
	Oral (Rat) LD50: >300<2000 mg/kg ^[1]	Not Available
cadmium	TOXICITY	IRRITATION
	Inhalation(Rabbit) LC50: 0.028 mg/L4h ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 225 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin: adverse effect observed (irritating) ^[1]
lead	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: >5.05 mg/l4h ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	
mercury (elemental)	TOXICITY	IRRITATION
	Inhalation (Rat) LC50: >0.007 mg/L4h ^[1]	Skin (Human - woman): 0.5%/1D
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin: adverse effect observed (corrosive) ^[1]
polybrominated biphenyls	TOXICITY	IRRITATION
	Oral (Mouse) LD50: >15000 mg/kg ^[2]	Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

STAINLESS STEEL	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p> <p>On skin and inhalation exposure, chromium and its compounds (except hexavalent) can be a potent sensitiser, as particulates. Studies show that they have a complex toxicity mechanism with hexavalent chromium associated with an increased risk of lung damage and respiratory cancers (primarily bronchogenic and nose cancers). However, there is no evidence that elemental, divalent, or trivalent chromium compounds causes cancer or genetic toxicity.</p>
1,3-DIOXOLANE	<p>Bacterial cell mutagen</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>Dioxolane demonstrates low acute toxicity to mammals via swallowing, inhalation or skin contact. The blood forming system seems to be the most sensitive organ; dioxolane does not seem to cause genetic toxicity at levels which are not toxic to the mother. Dioxolane can cause temporary solvent-like depression of the central nervous system, but there is insufficient evidence to suggest that it otherwise damages the nervous system.</p>
1,2-DIMETHOXYETHANE	<p>Animal testing shows material is a reproductive effector:</p> <p>For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):</p> <p>Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.</p> <p>EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.</p> <p>Acute Toxicity: Oral LD50 values in rats for all category members range from 739 (EGHE) to 3089 mg/kg bw (EGPE), with values increasing with decreasing molecular weight. Four to six hour acute inhalation toxicity studies were conducted for these chemicals in rats at the highest vapour concentrations practically achievable. Values range from LC0 > 85 ppm (508 mg/m3) for EGHE, LC50 > 400ppm (2620 mg/m3) for EGBEA to LC50 > 2132 ppm (9061 mg/m3) for EGPE. No lethality was observed for any of these materials under these conditions. Dermal LD50 values in rabbits range from 435 mg/kg bw (EGBE) to 1500 mg/kg bw (EGBEA). Overall these category members can be considered to be of low to moderate acute toxicity. All category members cause reversible irritation to skin and eyes, with EGBEA less irritating and EGHE more irritating than the other category members. EGPE and EGBE are not sensitisers in experimental animals or humans. Signs of acute toxicity in rats, mice and rabbits are consistent with haemolysis (with the exception of EGHE) and non-specific CNS depression typical of organic solvents in general. Alkoxyacetic acid metabolites, propoxyacetic acid (PAA) and butoxyacetic acid (BAA), are responsible for the red blood cell hemolysis. Signs of toxicity in humans deliberately ingesting cleaning fluids containing 9-22% EGBE are similar to those of rats, with the exception of haemolysis. Although decreased blood haemoglobin and/or haemoglobinuria were observed in some of the human cases, it is not clear if this was due to haemolysis or haemodilution as a result of administration of large volumes of fluid. Red blood cells of humans are many-fold more resistant to toxicity from EGPE and EGBE <i>in vitro</i> than those of rats.</p> <p>Repeat dose toxicity: The fact that the NOEL for repeated dose toxicity of EGBE is less than that of EGPE is consistent with red blood cells being more sensitive to EGBE than EGPE. Blood from mice, rats, hamsters, rabbits and baboons were sensitive to the effects of BAA <i>in vitro</i> and displayed similar responses, which included erythrocyte swelling (increased haematocrit and mean corpuscular hemoglobin), followed by hemolysis. Blood from humans, pigs, dogs, cats, and guinea pigs was less sensitive to haemolysis by BAA <i>in vitro</i>.</p>

	<p>Mutagenicity: In the absence and presence of metabolic activation, EGBE tested negative for mutagenicity in Ames tests conducted in <i>S. typhimurium</i> strains TA97, TA98, TA100, TA1535 and TA1537 and EGHE tested negative in strains TA98, TA100, TA1535, TA1537 and TA1538. <i>In vitro</i> cytogenicity and sister chromatid exchange assays with EGBE and EGHE in Chinese Hamster Ovary Cells with and without metabolic activation and <i>in vivo</i> micronucleus tests with EGBE in rats and mice were negative, indicating that these glycol ethers are not genotoxic.</p> <p>Carcinogenicity: In a 2-year inhalation chronic toxicity and carcinogenicity study with EGBE in rats and mice a significant increase in the incidence of liver haemangiosarcomas was seen in male mice and forestomach tumours in female mice. It was decided that based on the mode of action data available, there was no significant hazard for human carcinogenicity</p> <p>Reproductive and developmental toxicity. The results of reproductive and developmental toxicity studies indicate that the glycol ethers in this category are not selectively toxic to the reproductive system or developing fetus, developmental toxicity is secondary to maternal toxicity. The repeated dose toxicity studies in which reproductive organs were examined indicate that the members of this category are not associated with toxicity to reproductive organs (including the testes).</p> <p>Results of the developmental toxicity studies conducted via inhalation exposures during gestation periods on EGPE (rabbits -125, 250, 500 ppm or 531, 1062, or 2125 mg/m3 and rats - 100, 200, 300, 400 ppm or 425, 850, 1275, or 1700 mg/m3), EGBE (rat and rabbit - 25, 50, 100, 200 ppm or 121, 241, 483, or 966 mg/m3), and EGHE (rat and rabbit - 20.8, 41.4, 79.2 ppm or 124, 248, or 474 mg/m3) indicate that the members of the category are not teratogenic.</p> <p>The NOAELs for developmental toxicity are greater than 500 ppm or 2125 mg/m3 (rabbit-EGPE), 100 ppm or 425 mg/m3 (rat-EGPE), 50 ppm or 241 mg/m3 (rat EGBE) and 100 ppm or 483 mg/m3 (rabbit EGBE) and greater than 79.2 ppm or 474 mg/m3 (rat and rabbit-EGHE). For 1,2-dimethoxyethane (monoglyme): Monoglyme, an ethylene glycol ether, is of low toxicity. The vapours cause some irritation and loss of sensation at a sufficient concentration. In animals, degeneration of the testes and atrophy of the thymus gland have been reported, together with enlargement of the adrenal glands and increased spleen activity. Anaemia has occurred. Results of tests to determine the presence or absence of genetic toxicity have been mixed. As one of the breakdown products of monoglyme is known to interfere with sperm production, monoglyme appears to affect male (but not female) reproductive function. Monoglyme appears to cause developmental toxicity and foetal death but not major birth defects.</p> <p>Ethylene glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous.</p>
CARBON BLACK	Inhalation (rat) TCLo: 50 mg/m3/6h/90D-I Nil reported
LEAD	WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
MERCURY (ELEMENTAL)	Animal studies have shown that mercury may be a reproductive effector.
POLYBROMINATED BIPHENYLS	<p>Somnolence, liver changes recorded.</p> <p>From available experimental data, the potential for polybrominated fire retardants (PBFRs) to cause cancer, hormonal dysfunction and neuro-developmental toxicity are of concern. Their structural similarities to the polychlorinated diphenyl ethers, nitrofen and polychlorinated biphenyls add to concerns for their health effects. They cause mild eye, airway and skin irritation, damage to the liver, thyroid and sex organs. They can be harmful following prolonged contact with the skin or if swallowed. They are not known to cause any genetic defects. PBFRs have the potential for blooming , which is a process by which these compounds spread to the outer surface after curing. This is a potential by means by which humans and the environment can be exposed to these substances.</p> <p>WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.</p>
IRON DISULFIDE (PYRITES) GRANULAR & STAINLESS STEEL & LITHIUM & CARBON BLACK & GRAPHITE	No significant acute toxicological data identified in literature search.
STAINLESS STEEL & LITHIUM & GRAPHITE & LITHIUM IODIDE & MERCURY (ELEMENTAL)	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity	✗	Carcinogenicity	✔
Skin Irritation/Corrosion	✔	Reproductivity	✔
Serious Eye Damage/Irritation	✔	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✔	STOT - Repeated Exposure	✔
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✔ – Data available to make classification

SECTION 12 Ecological information

Toxicity					
MT606G, MT606FG, MT605G	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
iron disulfide (pyrites) granular	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Stainless Steel	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
1,3-dioxolane	Endpoint	Test Duration (hr)	Species	Value	Source

Continued...

MT606G, MT606FG, MT605G

	EC50	72h	Algae or other aquatic plants	>877mg/l	2
	NOEC(ECx)	Not Available	Crustacea	197.4mg/l	2
	LC50	96h	Fish	>60.9mg/l	2
	EC50	48h	Crustacea	>772mg/l	2
lithium	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	25.6mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	1.65mg/l	2
	EC50	48h	Crustacea	10mg/l	2
	LC50	96h	Fish	18mg/l	2
1,2-dimethoxyethane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	9120mg/l	2
	NOEC(ECx)	504h	Crustacea	320mg/l	2
	EC50	48h	Crustacea	4000mg/l	2
	LC50	96h	Fish	>500mg/l	2
carbon black	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>0.2mg/l	2
	NOEC(ECx)	24h	Crustacea	3200mg/l	1
	EC50	48h	Crustacea	33.076-41.968mg/l	4
	LC50	96h	Fish	>100mg/l	2
graphite	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	NOEC(ECx)	96h	Fish	>=100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	LC50	96h	Fish	>100mg/l	2
lithium iodide	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	~58.5mg/l	2
	EC50(ECx)	48h	Crustacea	~0.42mg/l	2
	EC50	48h	Crustacea	~0.42mg/l	2
cadmium	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.018mg/L	2
	EC50	96h	Algae or other aquatic plants	0.049-0.162mg/l	4
	NOEC(ECx)	1104h	Fish	<0.001mg/L	2
	EC50	48h	Crustacea	0.005-0.037mg/L	4
	LC50	96h	Fish	4.2-6.9mg/l	Not Available
lead	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.021mg/L	2
	EC50	96h	Algae or other aquatic plants	0.282-0.864mg/l	4
	NOEC(ECx)	672h	Crustacea	<0.001mg/L	2
	EC50	48h	Crustacea	0.029mg/L	2
	LC50	96h	Fish	0.008mg/L	2
mercury (elemental)	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.034mg/L	4
	EC50	96h	Algae or other aquatic plants	0.002-0.034mg/L	4
	NOEC(ECx)	2688h	Crustacea	<0.001mg/L	2
	EC50	48h	Crustacea	<0.001mg/L	2
	LC50	96h	Fish	0.002-0.006mg/L	4
polybrominated biphenyls	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Continued...

Very toxic to aquatic organisms.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1,3-dioxolane	LOW	LOW
1,2-dimethoxyethane	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
1,3-dioxolane	LOW (LogKOW = -0.37)
1,2-dimethoxyethane	LOW (LogKOW = -0.21)

Mobility in soil

Ingredient	Mobility
1,3-dioxolane	HIGH (Log KOC = 1)
1,2-dimethoxyethane	HIGH (Log KOC = 1)



SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none">▶ Recycle wherever possible or consult manufacturer for recycling options.▶ Consult State Land Waste Authority for disposal.▶ Bury or incinerate residue at an approved site.▶ Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 Transport information

Labels Required

	
Marine Pollutant	
HAZCHEM	4Y

Land transport (ADG)

14.1. UN number or ID number	3091				
14.2. UN proper shipping name	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT				
14.3. Transport hazard class(es)	<table><tr><td>Class</td><td>9</td></tr><tr><td>Subsidiary Hazard</td><td>Not Applicable</td></tr></table>	Class	9	Subsidiary Hazard	Not Applicable
Class	9				
Subsidiary Hazard	Not Applicable				
14.4. Packing group	Not Applicable				
14.5. Environmental hazard	Environmentally hazardous				
14.6. Special precautions for user	<table><tr><td>Special provisions</td><td>188 230 310 360 376 377 384 387 390</td></tr><tr><td>Limited quantity</td><td>0</td></tr></table>	Special provisions	188 230 310 360 376 377 384 387 390	Limited quantity	0
Special provisions	188 230 310 360 376 377 384 387 390				
Limited quantity	0				

Air transport (ICAO-IATA / DGR)

14.1. UN number	3091						
14.2. UN proper shipping name	Lithium metal batteries contained in equipment (including lithium alloy batteries)						
14.3. Transport hazard class(es)	<table><tr><td>ICAO/IATA Class</td><td>9</td></tr><tr><td>ICAO / IATA Subsidiary Hazard</td><td>Not Applicable</td></tr><tr><td>ERG Code</td><td>12FZ</td></tr></table>	ICAO/IATA Class	9	ICAO / IATA Subsidiary Hazard	Not Applicable	ERG Code	12FZ
ICAO/IATA Class	9						
ICAO / IATA Subsidiary Hazard	Not Applicable						
ERG Code	12FZ						
14.4. Packing group	Not Applicable						
14.5. Environmental hazard	Environmentally hazardous						
14.6. Special precautions for user	<table><tr><td>Special provisions</td><td>A48 A88 A99 A154 A164 A181 A185 A213 A220</td></tr><tr><td>Cargo Only Packing Instructions</td><td>970</td></tr></table>	Special provisions	A48 A88 A99 A154 A164 A181 A185 A213 A220	Cargo Only Packing Instructions	970		
Special provisions	A48 A88 A99 A154 A164 A181 A185 A213 A220						
Cargo Only Packing Instructions	970						

	Cargo Only Maximum Qty / Pack	35 kg
	Passenger and Cargo Packing Instructions	970
	Passenger and Cargo Maximum Qty / Pack	5 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	3091	
14.2. UN proper shipping name	LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT (including lithium alloy batteries)	
14.3. Transport hazard class(es)	IMDG Class	9
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	Not Applicable	
14.5. Environmental hazard	Marine Pollutant	
14.6. Special precautions for user	EMS Number	F-A , S-I
	Special provisions	188 230 310 360 376 377 384 387 390
	Limited Quantities	0

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code
Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
iron disulfide (pyrites) granular	Not Available
Stainless Steel	Not Available
1,3-dioxolane	Not Available
lithium	Not Available
1,2-dimethoxyethane	Not Available
carbon black	Not Available
graphite	Not Available
lithium iodide	Not Available
cadmium	Not Available
lead	Not Available
mercury (elemental)	Not Available
polybrominated biphenyls	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
iron disulfide (pyrites) granular	Not Available
Stainless Steel	Not Available
1,3-dioxolane	Not Available
lithium	Not Available
1,2-dimethoxyethane	Not Available
carbon black	Not Available
graphite	Not Available
lithium iodide	Not Available
cadmium	Not Available
lead	Not Available
mercury (elemental)	Not Available
polybrominated biphenyls	Not Available

SECTION 15 Regulatory information

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

- iron disulfide (pyrites) granular is found on the following regulatory lists
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
- Australian Inventory of Industrial Chemicals (AIIC)
- International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
- Stainless Steel is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

1,3-dioxolane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

lithium is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australian Inventory of Industrial Chemicals (AIIC)
FEI Equine Prohibited Substances List - Banned Substances
FEI Equine Prohibited Substances List (EPSL)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

1,2-dimethoxyethane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List

carbon black is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

graphite is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

lithium iodide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

cadmium is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Model Work Health and Safety Regulations - Hazardous chemicals (other than lead) requiring health monitoring
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

lead is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

mercury (elemental) is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

polybrominated biphenyls is found on the following regulatory lists

Australia Industrial Chemicals Environmental Management (IChEMS Register) Instrument 2022 - Schedule 7 - Relevant industrial chemicals that are likely to cause serious or irreversible harm to the environment with no essential uses
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
United Nations List of Prior Informed Consent Chemicals

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (1,3-dioxolane; polybrominated biphenyls)
Canada - DSL	No (iron disulfide (pyrites) granular; polybrominated biphenyls)

National Inventory	Status
Canada - NDSL	No (Stainless Steel; 1,3-dioxolane; lithium; 1,2-dimethoxyethane; carbon black; graphite; lithium iodide; cadmium; lead; mercury (elemental); polybrominated biphenyls)
China - IECSC	No (polybrominated biphenyls)
Europe - EINEC / ELINCS / NLP	No (polybrominated biphenyls)
Japan - ENCS	No (iron disulfide (pyrites) granular; Stainless Steel; lithium; graphite; cadmium; lead; mercury (elemental); polybrominated biphenyls)
Korea - KECI	Yes
New Zealand - NZIoC	No (polybrominated biphenyls)
Philippines - PICCS	No (Stainless Steel)
USA - TSCA	TSCA Inventory 'Active' substance(s) (iron disulfide (pyrites) granular; Stainless Steel; 1,3-dioxolane; lithium; 1,2-dimethoxyethane; carbon black; graphite; lithium iodide; cadmium; lead; mercury (elemental)); No (polybrominated biphenyls)
Taiwan - TCSI	Yes
Mexico - INSQ	No (iron disulfide (pyrites) granular; Stainless Steel; lithium iodide; polybrominated biphenyls)
Vietnam - NCI	No (iron disulfide (pyrites) granular)
Russia - FBEPH	No (Stainless Steel; lithium iodide; polybrominated biphenyls)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	30/10/2024
Initial Date	30/10/2024

SDS Version Summary

Version	Date of Update	Sections Updated
2.1	30/10/2024	Toxicological information - Acute Health (eye), Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Ecological Information - Environmental, Firefighting measures - Fire Fighter (extinguishing media), Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), Firefighting measures - Fire Fighter (fire incompatibility), First Aid measures - First Aid (eye), First Aid measures - First Aid (inhaled), First Aid measures - First Aid (skin), First Aid measures - First Aid (swallowed), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Stability and reactivity - Instability Condition, Exposure controls / personal protection - Personal Protection (other), Exposure controls / personal protection - Personal Protection (Respirator), Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container), Transport information - Transport, Transport Information, Identification of the substance / mixture and of the company / undertaking - Use

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- ▶ PC - TWA: Permissible Concentration-Time Weighted Average
- ▶ PC - STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit,
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code

- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European INventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers

MT606G, MT606FG, MT605G

- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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