

GAIA Akkumulatorenwerke GmbH

Date printed: 29.04.2009, Revision: 29.04.2009

Page 1 / 5

1 Identification of the substance / preparation and of the company

Product: RECHARGEABLE LITHIUM IONS CELLS, Type NCA
Registration number: not applicable
Use: Battery
Identified use: none
Method of operation: See product information.
Company: GAIA Akkumulatorenwerke GmbH
Montaniastraße 17
99734 Nordhausen / GERMANY
Phone: +49 (0) 3631-6167-0
Fax: +49 (0) 3631-6167-49
Homepage: www.gaia-akku.com
E-mail: info@gaia-akku.com
Emergency phone: +49 (0) 89-19240 (24h)
Responsible: Haensler@chemiebuero.de

2 Hazards identification

Physico-chemical hazards: At temperatures over 70 °C risk of bursting and withdrawal of electrolyte liquid exists.
When cell is exposed to an external short-circuit, it will cause heat generation and ignition.
Reactions of the electrolyte and the electrodes with water and humidity possible.

Human health dangers: See chapter 15.
The contained dangerous materials are not freely available with foreseeable use.

Environmental hazards: See R-phrases.

Other hazards: none

Hazard symbols:



Irritant

R-phrases: R 10: Flammable.
R 36: Irritating to eyes.

3 Composition / Information on ingredients

1 - < 5%	Ethylene carbonate
Xi, R41 CAS: 96-49-1, EINECS/ELINCS: 202-510-0, EU-INDEX: , ECBnr:	
1 - < 20%	Ethyl methyl carbonate
Xi, R10-36/38 CAS: 623-53-0, EINECS/ELINCS: , EU-INDEX: , ECBnr:	
1 - < 5%	Lithium hexafluorophosphate
T, R22-24-34 CAS: 21324-40-3, EINECS/ELINCS: 244-334-7, EU-INDEX: , ECBnr:	
10 - < 25%	Lithium-Cobalt-Nickel-Oxide
T+-N, R49-26-48/23-43-50/53 CAS: , EINECS/ELINCS: 442-750-5, EU-INDEX: , ECBnr:	
1 - < 5%	Copper
CAS: 7440-50-8, EINECS/ELINCS: 231-159-6, EU-INDEX: , ECBnr:	

Comment on component parts: The structural design of the cells prevents release of the hazardous media contained therein when the unit is used for its intended purpose.
For the wording of the listed risk phrases refer to section 16.

4 First aid measures

General information: Measures are only valid for damaged cells.

Inhalation: Consult a doctor immediately.
Remove the victim into fresh air and keep him calm.

Skin contact: In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact: In case of contact with eyes rinse thoroughly and immediately with plenty of water and seek medical advice.
Shield unaffected eye.

Ingestion: Consult a doctor immediately.
Do not induce vomiting.

Advice to doctor: Treat symptomatically.

GAIA Akkumulatorenwerke GmbH

Date printed: 29.04.2009, Revision: 29.04.2009

Page 2 / 5

5 Fire-fighting measures

Suitable extinguishing media: Metal fire-ex powder.
Carbon dioxide.
Dry powder.

Extinguishing media that must not be used:
Water spray jet.

Special exposure hazards arising from the substance or preparation itself or combustion products:

Unknown risk of formation of toxic pyrolysis products.
Hydrogen fluoride (HF).
Bursting batteries can be forcibly projected from a fire.

Special protective equipment for firefighters:

Use self-contained breathing apparatus.
Wear full protective suit.

Additional information:

Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

6 Accidental release measures

Personal precautions: Lock off contaminated area.
Use personal protective equipment.
Keep people away and stay on the upwind side.
Use breathing apparatus if exposed to vapours/dust/aerosol.

Environmental precautions: Do not discharge leakages into the drains/surface waters/groundwater.

Methods for cleaning up: Take up mechanically.
Take up residues with absorbent material (e.g. sand, sawdust, generalpurpose binder, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

7 Handling and storage

Advice on safe handling: The data of the manufacturer concerning the loading and unloading parameters and the recommended temperature ranges are to be considered.
No special measures necessary if used correctly.

Advice on protection against fire and explosion:
Keep away from all sources of ignition.

Requirements for storage rooms and vessels:
No special measures necessary.

Advice on storage compatibility: Do not store with combustible materials.

Further information on storage conditions:
Protect from heat/overheating.
Protect from sun.
Store in a dry place.
Recommended storage temperature: 0 °C - 40 °C.
Ensure battery terminals are protected during storage.

GAIA Akkumulatorenwerke GmbH

Date printed: 29.04.2009, Revision: 29.04.2009

Page 3 / 5

8 Exposure controls / personal protection

Additional advice on system design:

not applicable

Ingredients with occupational exposure limits to be monitored:

1 - < 5%	Copper, 1mg/m ^{3*} , General remarks: dusts and mists (as Cu), 0,2mg/m ^{3*} (fume)
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*** WEL: Workplace exposure limit**

Respiratory protection: not applicable
Hand protection: Butyl rubber, >120 min (EN 374).
Eye protection: Safety glasses.
Skin protection: Solvent-resistant protective clothing.
General protective measures: Measures are only valid for damaged cells.
Hygiene measures: Wash hands before breaks and after work.

Delimitation and monitoring of the environmental exposition:

not determined

9 Physical and chemical properties

Form: capsule
Color: not determined
Odor: not determined
pH-value: not applicable
pH-value [1%]: not applicable
Boiling point [°C]: not determined
Flash point [°C]: not applicable
Flammability [°C]: not determined
Lower explosion limit: not applicable
Upper explosion limit: not applicable
Oxidizing properties: no
Vapour pressure [kPa]: not determined
Density [g/ml]: not determined
Density at [°C]: not determined
Bulk density [kg/m³]: not applicable
Solubility in water: not applicable
Partition coefficient [n-octanol/water]:
not determined
Viscosity: not applicable
Relative vapour density determined in air:
not determined
Evaporation speed: not determined
Melting point [°C]: not determined
Autoignition temperature [°C]: not determined
Decomposition temperature: not determined

10 Stability and reactivity

Hazardous reactions: At temperatures over 70 °C risk of bursting and withdrawal of electrolyte liquid exists.
When cell is exposed to an external short-circuit, it will cause heat generation and ignition.
Reactions of the electrolyte and the electrodes with water and humidity possible.

Hazardous decomposition products:
No hazardous decomposition products known.

GAIA Akkumulatorenwerke GmbH

Date printed: 29.04.2009, Revision: 29.04.2009

Page 4 / 5

11 Toxicological information

Acute oral toxicity:	not determinated
Acute dermal toxicity:	not determinated
Acute inhalational toxicity:	not determinated
Irritant effect on eye:	not determinated
Irritant effect on skin:	not determinated
Sensitization:	not determinated
Subacute toxicity:	not determinated
Chronic toxicity:	not determinated
Mutagenicity:	not determinated
Reproduction toxicity:	not determinated
Carcinogenicity:	not determinated
Experiences made in practice:	none
General remarks:	Toxicological data are not available.


12 Ecological information


Fish toxicity:	not applicable
Daphnia toxicity:	not applicable
Behaviour in environment compartments:	not applicable
Behaviour in sewage plant:	not applicable
Bacteria toxicity:	not applicable
Biological degradability:	not applicable
COD:	not applicable
BOD 5:	not applicable
AOX-advice:	not applicable
2006/11/EC:	yes
General information:	Ecological data are not available. Do not discharge product unmonitored into the environment or into the drainage.

13 Disposal considerations

Product:	Dispose of as hazardous waste. For recycling, consult manufacturer.
Contaminated packaging:	Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed of as for product.
Waste no. (recommended):	160605

14 Transport information

Classification according to ADR:	UN 3480 Lithium ion batteries 9, II
- Classification Code:	M4
- Label:	
- ADR LQ	
- ADR 1.1.3.6 (8.6):	Transport category (tunnel restriction code): 2 (E)

Classification according to IMDG:	UN 3480 Lithium ion batteries 9 II
- EMS:	F-A, S-I
- Label:	
- IMDG Limited Quantities:	LQ: 0 I


Classification according to IATA:	UN 3480 Lithium ion batteries 9 II
- Label:	

GAIA Akkumulatorenwerke GmbH

Date printed: 29.04.2009, Revision: 29.04.2009

Page 5 / 5

15 Regulatory information

Exposure scenario:	not determinated
Chemical safety report:	not determinated
Labelling:	This preparation is a product and therefore it does not require labelling according to EC directives/GefStoffV.
Hazard symbols:	 Irritant
R-phrases:	R 10: Flammable. R 36: Irritating to eyes.
S-phrases:	S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S 60: This material and its container must be disposed of as hazardous waste.
Special labelling:	not applicable
Authorisation, TITEL VII:	not applicable
Restrictions, TITEL VIII:	not applicable
EEC-REGULATIONS:	1967/548 (2008/58, 30. ATP/ 31. ATP); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006.
TRANSPORT-REGULATIONS:	DOT-Classification, ADR (2009); IMDG-Code (34. Amdt.); IATA-DGR (2009).
NATIONAL REGULATIONS	EH40/2005 Workplace exposure limits with amendments October 2007.

16 Other informations

R-phrases (Chapter 03):	R 49: May cause cancer by inhalation. R 10: Flammable. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R 48/23: Toxic - danger of serious damage to health by prolonged exposure through inhalation. R 43: May cause sensitisation by skin contact. R 41: Risk of serious damage to eyes. R 24: Toxic in contact with skin. R 26: Very toxic by inhalation. R 34: Causes burns. R 36/38: Irritating to eyes and skin. R 22: Harmful if swallowed.
Modified position:	Chapter: 14; Plus Chapter: 14; Plus Chapter: 07; Plus Ensure battery terminals are protected during storage. Chapter: 05; Plus Bursting batteries can be forcibly projected from a fire. Chapter: 14; Plus
Observe employment restrictions for people:	not determinated
VOC (1999/13/CE):	not applicable
Customs Tariff:	not determinated

Disclaimer: This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.