

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

1.1 Product identifier

Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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

Application of the substance / the mixture Rechargeable battery

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Tridonic GmbH & Co KG

Färbergasse 15

6850 Dornbirn

Austria

Tel: +43 5572 395-0

sales@tridonic.com

Further information obtainable from:

Gerhard Radl

gerhard.radl@tridonic.com

1.4 Emergency telephone number:

+43 5572 395-0

Available during office hours:

Mo - Fr 8.00 - 16.00 h

Call the national emergency number!

*** SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified, according to the CLP regulation.

Additional information:

The product itself is declared as an article in sense of REACH (EC) No. 1907/2006 and is not subject to the provisions of classification in sense of the regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 void

Hazard pictograms void

Signal word void

Hazard statements void

Additional information:

The product itself is declared as an article in sense of REACH (EC) No. 1907/2006 and is not subject to the provisions of labeling in sense of the regulation (EC) No. 1272/2008.

2.3 Other hazards

NiCd batteries are gas-tight and harmless if the manufacturer's instructions are observed during use and handling.

Never use chargers that are not suitable for the type of battery with rechargeable batteries. The limits for maximum current load, charging and discharging voltage must be strictly adhered to! Do not short-circuit. Do not damage mechanically (pierce, deform, disassemble, etc.). Do not heat or burn above the permissible temperature. Keep batteries away from small children. Always store batteries in a dry and cool

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place.

NiCd batteries are safe to use when used properly and within the parameters specified by the manufacturer. Incorrect handling or circumstances resulting in improper operation may result in leakage of battery contents and decomposition products, resulting in severe reactions hazardous to health and the environment. In principle, contact with leaked battery components can pose a risk to health and the environment. Sufficient body and respiratory protection is therefore required in contact with conspicuous batteries (leakage of contents, deformation, discoloration, dents, etc.). NiCd batteries can react very violently in combination with fire, for example. Battery components with considerable energy can be emitted.

As with other batteries, NiCd batteries can continue to be a source of danger even when they are supposedly discharged.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine-disrupting properties ≥ 0.1 % (w/w).










SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description:

Rechargeable NiCd batteries are articles from which no substance is released when used properly.













Dangerous components:

CAS: 1306-19-0 EINECS: 215-146-2 Index number: 048-002-00-0 RTECS: EV 1925000	cadmium oxide (nonpyrophoric)  Acute Tox. 3, H301; Acute Tox. 2, H330  Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361fd; STOT RE 1, H372  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	26.7%
CAS: 12054-48-7 EINECS: 235-008-5 Index number: 028-008-00-X	nickel dihydroxide  Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	25.8%
CAS: 7440-43-9 EINECS: 231-152-8 Index number: 048-002-00-0 RTECS: EU 9800000	cadmium  Acute Tox. 3, H301; Acute Tox. 2, H330  Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361fd; STOT RE 1, H372  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	10.4%

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CAS: 7440-02-0 EINECS: 231-111-4 Index number: 028-002-00-7	nickel  Carc. 2, H351; STOT RE 1, H372  Skin Sens. 1, H317	4.9%
CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 Reg.nr.: 01-2119457892-27-XXXX	sodium hydroxide  Met. Corr. 1, H290; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 5\%$ Skin Corr. 1B; H314: $2\% \leq C < 5\%$ Skin Irrit. 2; H315: $0.5\% \leq C < 2\%$ Eye Dam. 1; H318: $C \geq 2\%$ Eye Irrit. 2; H319: $0.5\% \leq C < 2\%$ Met. Corr.1; H290: $C \geq 0.1\%$	4.8%
CAS: 31175-20-9 EC number: 680-985-7	ethanesulfonic acid, 2-[1-[difluoro[(1,2,2-trifluoroethenyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-, polymer with 1,1,2,2-tetrafluoroethene  Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	4.3%
CAS: 11104-61-3 EINECS: 234-334-5	Cobalt oxide  Acute Tox. 3, H301; Acute Tox. 2, H330  Resp. Sens. 1, H334; Carc. 2, H351; Repr. 1B, H360  Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10)  Skin Sens. 1, H317	1.6%
CAS: 7440-66-6 EINECS: 231-175-3	zinc - massive substance with a Community workplace exposure limit	0.8%
CAS: 9002-84-0	Polytetrafluoroethylene substance with a Community workplace exposure limit	0.8%
CAS: 1310-58-3 EINECS: 215-181-3 Index number: 019-002-00-8 RTECS: TT 2102000 Reg.nr.: 01-2119487136-33-XXXX	potassium hydroxide  Met. Corr. 1, H290; Skin Corr. 1A, H314  Acute Tox. 4, H302 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 5\%$ Skin Corr. 1B; H314: $2\% \leq C < 5\%$ Skin Irrit. 2; H315: $0.5\% \leq C < 2\%$ Eye Irrit. 2; H319: $0.5\% \leq C < 2\%$ Met. Corr.1; H290: $C \geq 0.1\%$	0.5%
CAS: 7440-48-4 EINECS: 231-158-0 Index number: 027-001-00-9 RTECS: GF 8750000	cobalt  Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 2, H361  Acute Tox. 4, H302; Skin Sens. 1, H317 Aquatic Chronic 4, H413	0.5%

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CAS: 7782-42-5 EINECS: 231-955-3	Graphite substance with a Community workplace exposure limit	0.3%
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SVHC

CAS: 1306-19-0	cadmium oxide (nonpyrophoric)
CAS: 7440-43-9	cadmium

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In normal cases no specific measures needed.

It always applies:

In case of discomfort or doubt, seek medical advice.

If unconscious, use a stable lateral position and do not administer anything through mouth.

The following measures apply to contact with the contents of a damaged battery:

After inhalation:

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Take off contaminated clothing and wash it before reuse.

Seek medical treatment in case of complaints.

After eye contact:

Rinse opened eye for several minutes under running water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist or eye clinic immediately.

After swallowing:

Rinse mouth thoroughly with cold water. Do not induce vomiting. If the patient is fully conscious, give one or two glass of water to drink. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Batteries may burst at high temperatures, which may result in flammable, toxic and/or corrosive vapours.

In case of fire, the following can be released:

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COx

carcinogenic nickel- und cobalt oxides

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information

Remove container from fire, if possible without risk.

Cool endangered receptacles with water spray.

Ensure good ventilation.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Restricted access to the affected area until cleaning work is completed.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid skin and eye contact with damaged batteries.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up:

Cover leaked material with inert absorbent material (sand or soil) and dispose of in suitable containers.

Clean again.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge.

Do not short-circuit batteries Use recommended charging time and current.

Observe protective measures and safety instructions.

Information about fire - and explosion protection:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store in dry conditions.

Store in a cool location.

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Protect from heat and direct sunlight.

Store in accordance with local/regional/national/international regulations.

Information about storage in one common storage facility:

Store away from oxidising agents.

Do not store together with acids.

Further information about storage conditions:

Protect against moisture.

Do not storage the Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.

Recommended storage temperature: room temperature

Storage class: 8 A

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

NiCd batteries are products from which no substances are released under normal and reasonably foreseeable conditions of use.

Ingredients with limit values that require monitoring at the workplace:

CAS: 1306-19-0 cadmium oxide (nonpyrophoric)

BOELV (EU)	Long-term value: 0.001 (0.004)* mg/m ³ *until 11/7/2027
MAK (Austria)	siehe Anhang III A 2
TRK (Austria)	Short-term value: 0.016 E mg/m ³ Long-term value: 0.004 E mg/m ³ als Cd berechnet
AGW (Germany)	Long-term value: 0.002 (E) mg/m ³ 8(II);AGS, X, 10, 39; als Cd
TRGS 910 (Germany)	Short-term value: 0.002 (A) mg/m ³ Long-term value: 0.0009 (A) mg/m ³ 8, Konzentrationen beziehen sich auf Cd-Gehalt
LEP (Spain)	Long-term value: 0.01* 0.002** mg/m ³ C1B, VLB,r, fracción *inh.,**resp.: d
VLEP (France)	Long-term value: 0.004 mg/m ³ fraction inhalable ou alvéolaire; en Cd
WEL (Great Britain)	Short-term value: 0.05 mg/m ³ Long-term value: 0.025 mg/m ³ as Cd; fume; Carc
WGW (Netherland)	Long-term value: 0.004 mg/m ³ als Cd

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CAS: 12054-48-7 nickel dihydroxide

BOELV (EU)	Long-term value: 0.1* mg/m ³ as Ni; sens. dermal/resp. *inhalable
TRK (Austria)	Short-term value: 2E; 0.2E* mg/m ³ Long-term value: 0.5E; 0.05E* mg/m ³ Stäube; *einatembare Tröpfchen; als Ni
AGW (Germany)	Long-term value: 0.030E mg/m ³ 8(II);AGS, Sh, Y, 10, 24, 31
TRGS 910 (Germany)	Short-term value: 0.006 (A) mg/m ³ Long-term value: 0.006 (A) mg/m ³ 8, Konzentrationen beziehen sich auf Ni-Gehalt
VLEP (France)	Long-term value: 1 mg/m ³ C1A, M2, R1B
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Ni; Sk; Carc

CAS: 7440-43-9 cadmium

BOELV (EU)	Long-term value: 0.001 (0.004)* mg/m ³ *until 11/7/2027
MAK (Austria)	siehe Anhang III A 2
TRK (Austria)	Short-term value: 0.016 E mg/m ³ Long-term value: 0.004 E mg/m ³ als Cd berechnet
AGW (Germany)	Long-term value: 0.002 (E) mg/m ³ 8(II);AGS, X, 10, 39; als Cd
TRGS 910 (Germany)	Short-term value: 0.002 (A) mg/m ³ Long-term value: 0.0009 (A) mg/m ³ 8, Konzentrationen beziehen sich auf Cd-Gehalt
LEP (Spain)	Long-term value: 0.002 mg/m ³ Fracción respirable, como Cd, VLB, r,d,v, C1B
VLEP (France)	Long-term value: 0.004 mg/m ³ fraction inhalable ou alvéolaire; en Cd
WEL (Great Britain)	Long-term value: 0.025 mg/m ³ as Cd, Carc
TWA (Italy)	Long-term value: 0.01* 0.002** mg/m ³ A2, IBE; *cadmio, **composti (come Cd): (j)
WGW (Netherland)	Long-term value: 0.004 mg/m ³ als Cd

CAS: 7440-02-0 nickel

MAK (Austria)	siehe Anhang III A 1
TRK (Austria)	Short-term value: 2E; 0.2E* mg/m ³ Long-term value: 0.5E; 0.05E* mg/m ³ Stäube; *einatembare Tröpfchen; als Ni

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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AGW (Germany)	Long-term value: 0.006A; 0.030E* mg/m ³ 8(II);AGS, 24, Sh, Y, 10*, 31*
LEP (Spain)	Long-term value: 1 mg/m ³ Sen, r
VLEP (France)	Long-term value: 1 mg/m ³ C2
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Ni; Sk; Carc
TWA (Italy)	Long-term value: 1.5 mg/m ³ A5, (i)
CAS: 1310-73-2 sodium hydroxide	
MAK (Austria)	Short-term value: 4 E mg/m ³ Long-term value: 2 E mg/m ³
MAK (Germany)	vgl.Abschn.IIb
LEP (Spain)	Short-term value: 2 mg/m ³
VLEP (France)	Long-term value: 2 mg/m ³
WEL (Great Britain)	Short-term value: 2 mg/m ³
TWA (Italy)	Ceiling limit: 2 mg/m ³
CAS: 7440-66-6 zinc - massive	
MAK (Germany)	Long-term value: 0.1A* 2E** mg/m ³ *alveolengängig; **eintembar
CAS: 9002-84-0 Polytetrafluoroethylene	
MAK (Germany)	Long-term value: 0.3 A* 4E** mg/m ³ *: Abschn.Vf+Xc; **: Abschn.V, f+g, Xc
CAS: 1310-58-3 potassium hydroxide	
MAK (Austria)	Long-term value: 2 E mg/m ³
LEP (Spain)	Short-term value: 2 mg/m ³
VLEP (France)	Short-term value: 2 mg/m ³
WEL (Great Britain)	Short-term value: 2 mg/m ³
TWA (Italy)	Ceiling limit: 2 mg/m ³
CAS: 7440-48-4 cobalt	
MAK (Austria)	siehe Anhang III A 2
TRK (Austria)	Short-term value: 0.4E; 2E* mg/m ³ Long-term value: 0.1E; 0.5E* mg/m ³ *Pulveraufarbeitung, mechanische Bearbeitung
MAK (Germany)	eintembare Fraktion; vgl.Abschn.XIII
LEP (Spain)	Long-term value: 0.02 mg/m ³ C1B, TR1B, VLB, Sen

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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WEL (Great Britain)	Long-term value: 0.1 mg/m ³ as Co; Carc, Sen
TWA (Italy)	Long-term value: 0.02 mg/m ³ A3, IBE (come Co)
WGW (Netherland)	Long-term value: 0.02 mg/m ³ stof en rook (als Co)
CAS: 7782-42-5 Graphite	
MAK (Austria)	Short-term value: 10 A mg/m ³ Long-term value: 5 A mg/m ³ (Alveolarstaub mit <1%Quartz)
AGW (Germany)	Long-term value: 1.25* 10** mg/m ³ 2(II);*alveolengängig**eintembar; AGS, DFG, Y
LEP (Spain)	Long-term value: 2 mg/m ³ polvo, fracción respirable; d
VLEP (France)	Long-term value: 2 mg/m ³ pour la fraction alvéolaire
TWA (Italy)	Long-term value: 2 mg/m ³ Tutte le forme, escluso le fibre di grafite (j)

Regulatory information

BOELV (EU): EU 2022/431

MAK (Austria): GKV 2020, 156. Verordnung, 09.04.2021, Teil II

TRK (Austria): GKV 2020, 156. Verordnung, 09.04.2021, Teil II

AGW (Germany): TRGS 900

LEP (Spain): Límites de exposición profesional para agentes químicos

VLEP (France): ED 1487 05.2021

WEL (Great Britain): EH40/2020

WGW (Netherland): Grenswaarden gezondheidsschadelijke stoffen

TWA (Italy): Valori Limite di Soglia

MAK (Germany): MAK- und BAT-Liste

DNELs

CAS: 7440-02-0 nickel

Oral	Long-term exposure - systemic effects	0.011 mg/kg bw/d (consumer)
	short-term exposure - systemic effects	0.37 mg/kg bw (consumer)
Dermal	Long-term exposure - local effects	0.035 mg/cm ² (consumer)
		0.035 mg/cm ² (workers)
Inhalative	Long-term exposure - systemic effects	0.00006 mg/m ³ (consumer)
		0.05 mg/m ³ (workers)
	Long-term exposure - local effects	0.00006 mg/m ³ (consumer)
		0.05 mg/m ³ (workers)
	short-term exposure - local effects	0.8 mg/m ³ (consumer)
		11.9 mg/m ³ (workers)

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CAS: 1310-73-2 sodium hydroxide		
Inhalative	Long-term exposure - local effects	1 mg/m ³ (consumer) 1 mg/m ³ (workers)
CAS: 7440-66-6 zinc - massive		
Oral	Long-term exposure - systemic effects	0.83 mg/kg bw/d (consumer)
Dermal	Long-term exposure - systemic effects	83 mg/kg bw/d (consumer) 83 mg/kg bw/d (workers)
Inhalative	Long-term exposure - systemic effects	2.5 mg/m ³ (consumer) 5 mg/m ³ (workers)
CAS: 1310-58-3 potassium hydroxide		
Inhalative	Long-term exposure - systemic effects	1 mg/m ³ (workers)
	Long-term exposure - local effects	1 mg/m ³ (consumer)
CAS: 7440-48-4 cobalt		
Oral	Long-term exposure - systemic effects	0.0298 mg/kg bw/d (consumer)
Inhalative	Long-term exposure - local effects	0.0063 mg/m ³ (consumer) 0.04 mg/m ³ (workers)

PNECs

CAS: 7440-02-0 nickel

fresh water	7.1 µg/l
sea water	8.6 µg/l
STP	0.33 mg/l
sediment (fresh water)	109 mg/kg dw
sediment (sea water)	109 mg/kg dw
soil	29.9 mg/kg dw
oral	0.12 mg/kg food

CAS: 7440-66-6 zinc - massive

fresh water	20.6 µg/l
sea water	6.1 µg/l
STP	0.1 mg/l
sediment (fresh water)	235.6 mg/kg dw
sediment (sea water)	121 mg/kg dw
soil	106.8 mg/kg dw

CAS: 7440-48-4 cobalt

fresh water	0.6 µg/l
sea water	2.36 µg/l
STP	0.37 mg/l
sediment (fresh water)	9.5 mg/kg dw
sediment (sea water)	9.5 mg/kg dw

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soil	10.9 mg/kg dw
Ingredients with biological limit values:	
CAS: 1306-19-0 cadmium oxide (nonpyrophoric)	
VLB (Spain)	<p>2 µg/g creatinina Muestra: en orina Momento de Muestero: No crítico Indicador Biológico: Cadmio</p> <p>5 µg/l Muestra: en sangre Momento de Muestero: No crítico Indicador Biológico: Cadmio</p>
CAS: 7440-43-9 cadmium	
VLB (Spain)	<p>2 µg/g creatinina Muestra: en orina Momento de Muestero: No crítico Indicador Biológico: Cadmio</p> <p>5 µg/l Muestra: en sangre Momento de Muestero: No crítico Indicador Biológico: Cadmio</p>
CAS: 7440-48-4 cobalt	
VLB (Spain)	<p>15 µg/l Muestra: en orina Momento de Muestero: Final de la semana laboral Indicador Biológico: Cobalto</p> <p>1 µg/l Muestra: en sangre Momento de Muestero: Final de la semana laboral Indicador Biológico: Cobalto</p>
IBE (Italy)	<p>15 µg/l Campioni: urine Momento del prelievo: a fine turno a fine settimana lavorativa Indicatore biologico: cobalto</p> <p>1 µg/l Campioni: sangue Momento del prelievo: a fine turno a fine settimana lavorativa Indicatore biologico: cobalto</p>

Regulatory information

VLB (Spain): Límites de exposición profesional para agentes químicos

IBE (Italy): Indici Biologici di Esposizione

Additional information: The lists valid during the making were used as basis.

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8.2 Exposure controls

Appropriate engineering controls

No further data; see section 7.

Technical measures and the use of suitable working methods take priority over the use of personal protective equipment.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Do not eat or drink while working.

Avoid skin and eye contact with damaged batteries.

Avoid inhalation of spilled material.

Take off contaminated clothing and wash it before reuse.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye wash bottles and emergency showers should be provided in the immediate area near the workplace.

Respiratory protection: Not required when handling undamaged batteries.

Hand protection

Not required when handling undamaged batteries.

Wear protective gloves made of chloroprene or rubber if batteries are damaged.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection

Not required when handling undamaged batteries.

Wear protective goggles if batteries are damaged.

Body protection: Not required when handling undamaged batteries.

Environmental exposure controls Do not allow to enter sewers/ surface or ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Solid

Colour:

White

Odour:

Odourless

Odour threshold:

No information available.

Melting point/freezing point:

No information available.

Boiling point or initial boiling point and boiling range

No information available.

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Flammability	Not determined.
Lower and upper explosion limit	
Lower:	No information available.
Upper:	No information available.
Flash point:	Not applicable.
Decomposition temperature:	No information available.
pH	Not applicable.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water:	Insoluble.
Partition coefficient n-octanol/water (log value)	No information available.
Vapour pressure:	Not applicable.
Density and/or relative density	
Density:	No information available.
Vapour density	Not applicable.
Particle characteristics	
See section 3.	

9.2 Other information

Appearance:

Form: Solid

Important information on protection of health and environment, and on safety.

Ignition temperature:	130 °C
Explosive properties:	No information available.
Change in condition	
Softening point/range	
Oxidising properties	No information available.
Evaporation rate	Not applicable.

Information with regard to physical hazard classes

Explosives	void
Flammable gases	void
Aerosols	void
Oxidising gases	void
Gases under pressure	void
Flammable liquids	void
Flammable solids	void
Self-reactive substances and mixtures	void
Pyrophoric liquids	void
Pyrophoric solids	void
Self-heating substances and mixtures	void
Substances and mixtures, which emit flammable gases in contact with water	void

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Oxidising liquids	void
Oxidising solids	void
Organic peroxides	void
Corrosive to metals	void
Desensitised explosives	void

SECTION 10: Stability and reactivity

10.1 Reactivity No hazardous reactions known if stored and used as prescribed.

10.2 Chemical stability No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies cont release of pressure without ignition.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not expose the rechargeable battery to mechanical shock.

Do not disassemble, crush, short-circuit, or connect with incorrect polarity. Avoid mechanical or electrical abuse.

10.5 Incompatible materials:

strong oxidizing agents

strong acids

10.6 Hazardous decomposition products: In case of fire: see section 5

SECTION 11: Toxicological information

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

Inhalation: No probable route of exposure of the product itself. Inhalation of substances leaked from damaged batteries may irritate the respiratory tract and damage organs during prolonged or repeated exposure.

Skin contact: Contact with the undamaged battery does not present a hazard. Skin contact with damaged batteries may cause burns.

Eye contact: Contact with the undamaged battery does not constitute a hazard. Eye contact with spills from the damaged battery may cause burns.

Ingestion: No probable route of exposure of the product itself. Ingestion of spills may cause burns to the esophagus and stomach. Toxic if swallowed.

The product is declared as a product and is not subject to the CLP classification and labelling requirements.

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

CAS: 1306-19-0 cadmium oxide (nonpyrophoric)

Oral	LD50	72 mg/kg (rat)
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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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CAS: 7440-43-9 cadmium		
Oral	LD50	225 mg/kg (rat)
CAS: 7440-02-0 nickel		
Oral	LD50	> 9,000 mg/kg (rat)
CAS: 7440-66-6 zinc - massive		
Oral	LD50	> 2,000 mg/kg (rat)
Inhalative	LC50/4h	> 5.41 mg/l (rat)
CAS: 1310-58-3 potassium hydroxide		
Oral	LD50	273 mg/kg (rat)
CAS: 7440-48-4 cobalt		
Oral	LD50	6,170 mg/kg (rat)
CAS: 7782-42-5 Graphite		
Oral	LD50	> 2,000 mg/kg (rat)

Skin corrosion/irritation

The electrolyte contained in the cell or battery is classified as a caustic liquid and causes skin burns.

Serious eye damage/irritation

The electrolyte contained in the cell or battery is classified as a corrosive liquid and causes serious eye damage.

Respiratory or skin sensitisation

The electrolyte contained in the cell or battery contains sensitizing substances.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity The electrolyte contains nickel and cobalt compounds.

Reproductive toxicity The electrolyte contains cobalt compounds.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure The electrolyte contains nickel compounds.

Aspiration hazard Based on available data, the classification criteria are not met.

Other information: There is no danger from the undamaged battery.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

CAS: 1310-73-2 sodium hydroxide

EC50 (48 h) 40.4 mg/l (daphnia) (Ceriodaphnia sp.)

LC50 (96 h) 35 – 189 mg/l (fish)

EC50 (24 h) 76 mg/l (daphnia) (Daphnia magna)

CAS: 1310-58-3 potassium hydroxide

LC50 (96 h) 80 mg/l (fish) (Gambusia affinis)

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes:

Avoid release to the environment.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Dispose only through authorized companies in accordance with local regulations.

European waste catalogue

Notes: The European Waste Catalogue (EWC) classifies waste materials and categorises them according to what they are and how they were produced. This may cause other classifications. The final decision belongs to the last user.

16 06 02*	Ni-Cd batteries
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Uncleaned packaging:

Recommendation: Dispose of packaging according to regulations on the disposal of packagings.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN, IMDG, IATA

UN2800

14.2 UN proper shipping name

ADR/RID/ADN

2800 BATTERIES, WET, NON-SPILLABLE

IMDG, IATA

BATTERIES, WET, NON-SPILLABLE

14.3 Transport hazard class(es)

ADR/RID/ADN, IMDG, IATA



Class

8 Corrosive substances.

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

(Contd. of page 16)

Label	8
14.4 Packing group	
ADR/RID/ADN, IMDG, IATA	not regulated
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Warning: Corrosive substances.
Hazard identification number (Kemler code):	80
EMS Number:	F-A,S-B
Stowage Category	A
14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
Transport/Additional information:	Special provision 598: The carriage of batteries is not subject to the provisions of ADR/RID/ADN if the requirements set out therein are met. IATA: not restricted, UN2800 Batteries, wet, non spillable as per Special Provision A67

ADR/RID/ADN	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
Transport category	3
Tunnel restriction code	E

IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
UN "Model Regulation":	UN 2800 BATTERIES, WET, NON-SPILLABLE, 8

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Labelling according to Regulation (EC) No 1272/2008

According to REACH, the product is an article and therefore not subject to classification and labelling according to CLP Regulation (EC) No. 1272/2008.

There is no obligation to prepare safety data sheets for articles. This data sheet describes the safety requirements and is based on the safety data sheet according to REACH Regulation (EC) No. 1907/2006.

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 23, 27, 72

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

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Regulation (EU) No 649/2012

CAS: 1306-19-0	cadmium oxide (nonpyrophoric)	Annex I Part 1 Annex I Part 2
CAS: 7440-43-9	cadmium	Annex I Part 1 Annex I Part 2

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

CAS: 7440-43-9 cadmium

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

CAS: 1306-19-0	cadmium oxide (nonpyrophoric)
CAS: 7440-43-9	cadmium

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.

Relevant phrases

- H290 May be corrosive to metals.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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Trade name: Nickel Cadmium Akku /Akku-Pack (NiCd)

(Contd. of page 18)

- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H350i May cause cancer by inhalation.
- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H360D May damage the unborn child.
- H361 Suspected of damaging fertility or the unborn child.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

Training hints

Regular training of staff involved in the transport of dangerous goods (in accordance with Chapter 1.3 ADR).

Department issuing SDS:

UmEnA GmbH

<http://umena.at>

Email: office@umena.at

Date of previous version: 08.11.2022

Version number of previous version: 1.4

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1Ai

Carc. 1B: Carcinogenicity – Category 1B

Carc. 2: Carcinogenicity – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 1B: Reproductive toxicity – Category 1B

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Printing date 11.09.2023

Version number 1.5 (replaces version 1.4)

Revision: 11.09.2023

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Repr. 2: Reproductive toxicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

*** Data compared to the previous version altered.**

EU