

MSDS

MATERIAL SAFETY DATA SHEET

Documents No.: MSDS-TPNIMH01-2017

Section 1- Chemical Product and Manufacturer Identification

Product name	Nickel Metal Hydride Batteries. (NI-MH Batteries)		
Model	All		
Manufacturer Name:	Toptech Battery (HK) Limited		
Address:	Building 1, Launch Industrial Park, Wuhe Road North BanTian, Bu Ji, ShenZhen, China		
Fax	86-755 8473 9850	Company emergency phone	+86 (755) 8473 9528
Issue date	January 4 th ,2017		

Section 2 - Composition/Information on Ingredient

CHEMICAL NAME	Molecular Formula	CAS No.	Weight(%)
Nickel	Ni	7440-02-0	30-40
Zinc	Zn	7440-66-6	5-19.0
Potassium Hydroxide (Liquid)	KOH	1310-58-3	10-15
Cobalt	Co	7440-48-4	4-8
Manganese	Mn	7439-96-5	<2
Aluminum	Al	7429-90-5	<1
Iron	Fe	7439-89-6	<1
Water, paper, plastic, other		Balance	

Section 3 - Hazards Identification

No specific health hazards for normal use.

Routes of Entry

Eyes, Skin, Inhalation, Ingestion

Health Hazards

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery

is mechanically or electrically abused. The most likely risk is acute exposure when a battery vents. Leaking material exposure to skin, eyes may cause irritation. Inhalation of fumes may cause respiratory irritation.

Sign/Symptoms of Exposure

Leaking can cause thermal and chemical burns upon contact with the skin

Section 4 - First Aid measures**Eyes**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Do not induce vomiting. Call a physician immediately.

Section 5 - Fire Fighting Measures

Flash Point: N/A

Auto-Ignition Temperature: N/A.

Extinguishing Media

CO₂, dry chemical.

Special Fire-Fighting Procedures

Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide, other metallic oxide fumes.

Section 6 - Accidental Release Measures**Steps to be Taken in case Material is Released or Spilled**

If the battery is accidentally broken and leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled material with absorbent.

Waste Disposal Method

It is recommended to discharge the battery to the end, recycle copper and other metal, handing in the abandoned batteries to related department unified, dispose of the batteries in accordance

with approved local, state, and federal requirements. Consult state environmental protection agency and/or federal EPA.

Section 7- Handling and Storage

The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

Precautions to be taken in handling and storing

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

Other Precautions

Do not short or install with incorrect polarity.

Section 8- Exposure Controls, Personal Protection

Respiratory Protection

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under conditions of normal use.

Other Protective Clothing or Equipment

Not necessary under conditions of normal use.

Personal Protection is recommended for venting batteries: Respiratory Protection, Protective Gloves, Protective Clothing and Safety Glass with side shields.

Section 9- Physical and Chemical Properties

Boiling Point:	N/A	Melting pointing:	N/A
Vapor Pressure:	N/A	Vapor Density:	N/A
Specific Gravity:	1.17-1.250(electrolyte)	Evaporation Rate:	Not determined
Solubility in water: Electrolyte solution is completely soluble			
REMAINDER: INSOLUBLE			

Appearance Characters: white, cylindrical, with odorless battery.

Chemical Uses: Consumer electronics & industrial electronics.

Section 10- Stability and Reactivity

Stability

Stable .

Conditions to Avoid

Heating, fire, mechanical abuse and electrical abuse.

Hazardous Decomposition Products

When exposed to fire or extreme heat, batteries may emit toxic fumes.

Section 11- Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibroid lung injury and membrane irritation.

Section 12- Ecological Information**Environment Effect**

When promptly used or disposed the battery does not present environmental hazard.

When disposed, keep away from water, rain and snow.

Section 13- Disposal Considerations**Appropriate Method of Disposal of Substance or Preparation**

Dispose of the batteries in accordance with approved local, state, and federal requirements.

Consult state environmental agency.

Section 14-Transportation Information

Ni-MH battery is exempt from dangerous goods. It is considered non-dangerous goods by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), International Maritime Dangerous Goods Regulations (IMDG), or the 《Recommendations on the Transport of Dangerous Goods Model Regulations》.

Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.

According to IATA special provisions A199 not dangerous goods

The consignment can be shipped as NOT RESTRICTED in accordance with the 58th Edition of IATA DANGEROUS GOODS REGULATIONS and all applicable carriers and government regulations. The product safety conditions meet the IATA DGR- Special Provision A199.

Transport Fashion: By air, by sea, by railway, by road..

Packaging Information: PV sleeve.

Section 15- Regulatory Information**Law Information**

《Dangerous Goods Regulation》

FÜR KLEINE WISSENSCHAFTLER



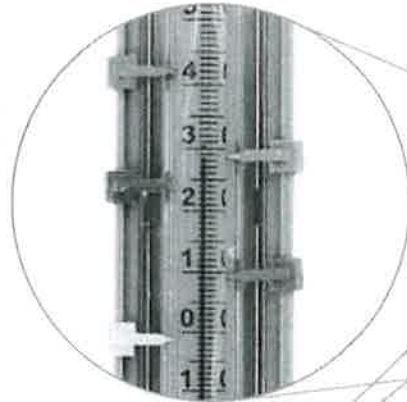
für bis zu 10 Kinder

1I Basis-Experimentierbox

Inkl. Aufhängung für die Wand. Die Schutzhülle kann oben geöffnet werden, um das Thermometer bei Bedarf zu entnehmen.

Extragroße Skala für bessere Lesbarkeit.

10% gespart!



Mit den verschiebbaren Pfeilen werden Temperaturen angezeigt und dokumentiert. Ihre Schüler können verschiedene Temperaturen, z. B. in der Sonne oder im Schatten, speichern und später vergleichen.

Für präzise Messungen, z. B. von Flüssigkeiten, ist die Schutzhülle am Messpunkt geöffnet.

**BEST
SELLER**

2I Multi-Thermometer

Betzold

1I Basis-Experimentierbox für „Gruppen“

Wecken Sie den Forscherdrang der Kinder! Einfache Versuche zu den Themen Wasser, Pflanzen oder mit Alltagsmaterialien, die in jedem Kindergarten zur Hand sind, machen Lust auf mehr. Das Set mit über 400 Arbeitsmitteln steht übersichtlich in einer Aufbewahrungsbox für kleine Forscher bereit.

Inhalt: 10 Experimentierbrillen, 12 Reagenzgläser mit Verschluss, 1 Reagenzglasständer, 2 Wasserfilter-Sets mit 200 Filtern, 12 Petrischalen einfach, 9 Petrischalen mit Dreifachteilung, 1 Thermometer, 5 Tropfflaschen, 3 Spritzflaschen, 100 Indikatorstäbchen, 12 Pipetten, 10 Mischlöffel, 9 Farbpulverexperimente, 10 Sammel-dosen, 5 Messbecher, 3 Lupen mit 5-fach-Vergrößerung, 2 Lupen mit 10-fach-Vergrößerung, 1 Aufbewahrungsbox

Warnhinweise: 1, 23 (Seite 456)

86470G38

€ 199,-

Betzold

2I Multi-Thermometer

Das perfekte Thermometer für verschiedenste Schul-Experimente.

Es verfügt über 6 farbige Zeiger, mit denen verschiedene Temperaturen angezeigt und fest dokumentiert werden können. Ihre Schüler können **verschiedene Temperaturen**, z. B. in der Sonne oder im Schatten, **speichern und später vergleichen**. Durch die verschiedenen Farben lassen sich die entsprechenden Umstände auch später noch nachvollziehen. Alternativ schätzen Ihre Schüler Temperaturen, z. B. von Eiswasser, warmem und heißem Wasser, und halten die Schätzungen mit den Zeigern fest. Anschließend wird geprüft.

Die **robuste Schutzhülle** aus Kunststoff schützt das Thermometer auch bei starker Beanspruchung. Bei Bedarf kann das Thermometer auch aus der Schutzhülle entnommen werden.

Für Messungen von -30 °C bis +110 °C.

Maße: 32,5 x 3,7 x 2 cm.

Warnhinweis: 37 (Seite 456)

83304G38 1 Thermometer

ab 8 Stück nur je

€ 6,⁶⁵

€ 5,⁹⁸

Sparen Sie 10% gegenüber Einzelbezug!

3I Reagenzglas-Ständer

€ 19,⁹⁵



Inkl. 6 Reagenzgläsern

3I Reagenzglas-Ständer, 7-tlg.

Stabiles Kunststoffgestell (23,5 x 7,5 cm) mit 6 Reagenzgläsern (12,5 cm lang, Ø ca. 1,5 cm), mit Halterungen für 6 weitere. Lieferung ohne Deko

51059G38

€ 19,⁹⁵

《Recommendations on the Transport of Dangerous Goods Model Regulations》
《International Maritime Dangerous Goods》
《Technical Instructions for the Safe Transport of Dangerous Goods》
《Classification and code of dangerous goods》
《Occupational Safety and Health Act》 (OSHA)
《Toxic Substances Control Act》 (TSCA)
《Consumer Product Safety Act》 (CPSA)
《Federal Environmental Pollution Control Act》 (FEPCA)
《The Oil Pollution Act》 (OPA)
《Superfund Amendments and Reauthorization Act Title III (302/311/312/313)》 (SARA)
《Resource Conservation and Recovery Act》 (RCRA)
《Safety Drinking Water Act》 (CWA)
《California Proposition 65》
《Code of Federal Regulations》 (CFR)
In accordance with all Federal, State and Local laws.

Section 16 - Additional Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Date issued: 2017/1/4

Last Date Revised: 2017/1/4

End of document

86466

Höhe entweder 120 mm
oder 215 mm

Checkliste Printproduktion

Zuständiger PM:

Stephie

Datum:

20.12.17

Zuständiger Gestalter:

Selma

Bezeichnung:

Basisset - Schülerlabor

Art.-Nr.:

86470

Anmerkungen zum Produkt
(Stückliste, Aufkleber etc.):

Format:

190 x 120 mm / 250 x 215 mm ~~Druck Extern~~ Intern☐ Farbe ☐ Schwarz/weiß

Seitenzahl:

Auflage:

Übersetzung: ~~EN~~ ~~FR~~Qualitätsmanagement:
(Warnhinweise, Batterie, CE, U3-Logo)

EAN-Code (falls vorhanden):

4051799029891

LOT-Nummer (falls vorhanden):

Gesehen von

☐ Uli Betzold☐ AL☐ TLAbwicklung Einkauf, PM oder
Werbung:

	Lieferant 1	Lieferant 2
Menge	EK 1:	EK 1:
Menge	EK 2:	EK 2:
Menge	EK 3:	EK 3:

Spätestens gedruckt am:

Arbeitsauftrag, Details

Katalog, allgemein: W8

Warnhinweise 1, (23) → Nicht für Kinder unter 36 Monate ...,
Keine Schutzfunktion, es besteht Verletzungsgefahr!

Größe Verpackung: H: 385 mm T: 205 mm B: 470 mm