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

1.1. Product identifier
Product name:
BATTERY 9V170Ah
The product consist group of chemical substances.
Technical data:
Chemical System : Zink - Air Alkaline
Nominal Voltage: 9V
Nominal Capacity: 170 Ah
Nominal Dimension: 189 mm x 125 mm x 160 mm
Terminals: spiral spring
Battery box: plastic
Average Weight: 2950 g
Volume: 3,78 dm3
Warning: Under normal conditions of use, the battery is hermetically sealed. Do not short circuit the battery!!!

1.2. Relevant identified uses of the product and uses advised against
Professional and consumer - used to electrical devices.

1.3. Details of the supplier of the safety data sheet
Systemix Sp. z o.o.
ul. Lubichowska 176 A
83-200 Starogard Gdański
tel.: :+48 (58) 561 48 13
fax: :+48 (58) 561 48 13|(58) 561 48 14
e-mail: biuro@systemix.com.pl

1.4. Emergency telephone number
+48 (58) 561 48 13

SECTION 2: Hazards identification

2.1. Classification of the product
Warning: Under normal conditions of use, the battery is hermetically sealed.
Product has been constructed in such a way as not to pose any hazard to the user. But we can not exclude a situation of stress, resulting from damage to the product. Classification is concerned with the risks of the product ingredients, in the absence constituents (hazardous substances forming the battery), escaped in an uncontrolled manner to the surrounding environment or come into direct contact with living organisms in the human body.
Classification according to directive 67/548/EEC:
C - Corrosive
N - Dangerous for the environment

R 22 Harmful if swallowed.
R 35 Causes severe burns.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements according to 67/548/EWG; 1999/45/EWG
Hazard pictograms

 **C**  **N**

Risk phrases

R 22 Harmful if swallowed.
R 35 Causes severe burns.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

S 24 Avoid contact with skin.
S 28 After contact with skin, wash immediately with plenty of water.
S 36/37 Wear suitable protective clothing and gloves.
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Content: potassium hydroxide [WE 215-181-3]

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances

3.2. Mixture

Chemical nature: a mixture of organic compounds added fragrance.

Hazardous ingredients:

Name of substance	Identifier	Classification 67/548/EWG	Classification 1272/2008		% weight
potassium hydroxide	CAS 1310-58-3 WE 215-181-3 Indeks. 019-002-00-8	Xn, C R 35	Skin Corr. 1B Acute Tox 4	H314 H302	ok. 26,1
graphite	Nr CAS 7782-42-5 Nr WE 231-955-3 Nr indeks. ---	Xi R 36/37	Eye Irrit. 2 STOT SE 3	H319 H335	ok. 0,8
manganese dioxide	Nr CAS 1313-13-9 Nr WE 215-202-6 Nr ind. 025-001-00-3	Xn R 20/22	Acute Tox. 4 Acute Tox. 4	H302 H332	ok. 6,0
zinc powder, passived	CAS 7440-66-6 WE 231-175-3 Indeks 030-001-00-1	N R 50-53	Aquatic Acute 1 Aquatic Chronic 1	H400 H410	ok. 39,9

These ingredients do not have at the moment of the registration number because they are subject to the provisions of the transitional period in accordance with REACH.

SECTION 4: First aid measures

Warning: Under normal conditions of use, the battery is hermetically sealed.
Product has been constructed in such a way as not to pose any hazard to the user.
But we can not exclude a situation of stress, resulting from damage to the product. First aid should be granted in cases, if the components (battery, creating dangerous substances), they escaped in an uncontrolled manner and which came into direct contact with the human body.

Attention:
Immediately leave the contaminated area; take deep breaths of fresh air.
Lay the victim on his/her side with the head lower than the body.
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Seek medical advice immediately (show the label where possible).

4.1. Description of first aid measures

Inhalation:

- Immediately leave the contaminated area; take deep breaths of fresh air
- If the person breathe large amount of vapours, the exposed person on fresh air.
- Seek medical advice.

Ingestion:

- Immediately call a POISON CENTER or doctor/physician.
- If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting.
- Seek immediate medical advice.

Eye contact:

- Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open to ensure that the entire surface is flushed. Do not put any ointments, oils or medication.
- Seek medical advice.

Skin contact:

- Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.
- If irritation persists, seek medical attention.

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

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

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

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents to extinguish fires in the neighborhood:
CO2, powder. Fight larger fires: alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture

Combustion products formed during the combustion of potassium oxide, manganese oxide, zinc oxide, carbon oxides.

Protective equipment:

High temperatures may cause pressure build-up in closed containers.
During the thermal decomposition produced of harmful compounds.
Reduce vapour with water spray.

Explosive mixture:

Not applicable-non-explosive.

5.3. Advice for firefighters

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Clothing resistant to high temperatures.
Independent self-contained breathing apparatus.

SECTION 6: Accidental release measures

Product (product) has been constructed in such a way as not to pose any hazard to the user. But we can not exclude a situation of stress, resulting from damage to the product.

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment (section 8).
Avoid contact with skin, eye and nose.
Do not breathe vapour.
Do not let this chemical enter the environment.

6.2. Environmental precautions

Avoid direct discharge into drains.

6.3. Methods and material for containment and cleaning up

Keep damaged packaging.
Take up mechanically and using natural sorbents (sawdust, dry sand).
Harvested from the environment to put the weight in a substitute container.
For cleaning use detergent and large amounts of water.
Do not use solvents or thinners

6.4. Reference to other sections

Personal Protection: Section 8
Methods of disposal: 13th Section.

SECTION 7: Handling and storage

Product (product) has been constructed in such a way as not to pose any hazard to the user. But we can not exclude a situation of stress, resulting from damage to the product. The procedure is provided in situations of displacement and manipulate larger amounts of product.

7.1. Precautions for safe handling

Recommendations when performing a product:
Prevent discharges into the environment.
Prevented from entering the sewer system
Storage in dry area.
Protect from direct sunlight.
Use the general rules of industrial hygiene.
Do not eat, drink or smoke when using this product.
Clothing exchange.
Wash contaminated clothing before reuse.
Contaminated clothing should not be beyond the workplace.
Before breaks wash hands and face.

7.2. Conditions for safe storage, including any incompatibilities

Warehouses must be designed to store corrosive substances.
Storage rooms must be ventilated.
Keep cool.
Use high-performance exhaust systems.
Keep separate from food, drink, feed.
Protect from sunlight and intense heat.
The open containers manipulated very carefully to avoid spillage of substances.
Read the data sheet.
Do not use the reading and understanding of all safety measures.

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

Product (product) has been constructed in such a way as not to pose any hazard to the user. But we can not exclude a situation of stress, resulting from damage to the product. The procedure is provided in situations of production, transport and handling of larger amounts of product.

8.1. Control parameters

potassium hydroxide: WEL (Great Britain) Short-term value: 2 mg/m³
manganese dioxide: WEL (Great Britain) Long-term value: 5 mg/ m³ as Mn
Dust (graphite and Zinc-powder: WEL (Great Britain) Long-term value: 10 mg/m³

8.2. Exposure controls

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits for vapour.
If user operations generate vapour or mist, use ventilation to keep exposure to airborne contaminants abowe the exposure limit.
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with eyes and skin.

Eye protection (hot process)
Safety goggles.

Protection of hands
The selected protective gloves have to satisfy the specifications of UE Directive 89-689-EEC and standard EN 374 derived from it.
The glove material has to be impermeable and resistant to the substance.
Selection of glove material on consideration of the penetration times, rates of diffusion and the degradation.

Respiratory protection
In case of brief exposure or low pollution use respiratory filter device.
In case of intensive or longer exposure use self-contained respiratory protective device.

Body protection
In case of pouring big amounts.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form:	Solid product.
Color:	Consistent with the specification.
Odour:	Odourless.
pH:	Not applicable.
Boiling Point:	Not applicable.
Freezing Point:	Not applicable.
Flash point:	Not applicable.
Flammability:	Not applicable.
Upper falammability or explosive limits:	Not applicable.
Oxidizing properties:	Not applicable.
Vapor pressure:	No data.
Relative Density:	0,990 kg/l w 20°C
Water Solubility:	Potassium hydroxide dissolves in water completely, well in alcohol and glycerine.
Partition coefficient n-octanol/water:	Not applicable.
Viscosity (20°C):	Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity
Potassium hydroxide reacts violently with acids.
Corrosive in presence of moisture and air to metals such as zinc, lead, aluminum, forming flammable hydrogen.
Zinc reacts with strong acids.

10.2. Chemical stability
Under normal storage and use of the substance is chemically stable.

10.3. Possibility of hazardous reactions

Reacts with acids.

10.4. Conditions to avoid

During contact with moisture or water heat is produced.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

Do not occur if used according to specifications.

SECTION 11: Toxicological information

<u>Warning: Under normal conditions of use, the battery is hermetically sealed.</u>
Product has been constructed in such a way as not to pose any hazard to the user.
But we can not exclude a situation of stress, resulting from damage to the product. First aid should be granted in cases, if the components (battery, creating dangerous substances), they escaped in an uncontrolled manner and which came into direct contact with the human body.

11.1. Acute toxicity

potassium hydroxide
LD50(oral, rat) = 365 mg/kg
graphite
LD50(oral, rat) > 2.000 mg/kg (OECD 401)
manganese dioxide
LD50(oral, rat) > 2.000 mg/kg (OECD 401)

11.2 Primary irritant effect

on the skin:
Causes severe burns.
on the eyes:
Causes severe burns.
ingestion:
Harmful if swallowed.
Causes severe burns.
inhalation:
Causes severe burns.
sensitization:
Not available.
other information: no data.
Delayed and chronic effects:

Cancirogencity:	Not available.
Mutagenicity:	Not available.
Reproductive toxicity:	Not available.
Narcosis:	Not available.

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<u>Ecotoxicity effects:</u>
potassium hydroxide
LD50(aquatic organisms)) : 100 - 10 mg/l / 96 h
LD50(fish) : >28,6 mg/l / 96 h
Harmful to fish with an increase in pH above 10.5.
graphite
LC50(Brachudanio rerio) > 5600 mg/l/96 h
EC50(Daphnia magna) > 10000 mg/l/96 h
manganese dioxide

No particular risk to aquatic organisms.
zinc powder, passived
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability
No data.

12.3. Bioaccumulative potential
No data.

12.4. Mobility in soil and water
No data.

12.5. Results of PBT and vPvB assessment
No data.

12.6. Other adverse effects
No data.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Wastes should be handled in accordance with local and national regulations.
Send to licensed reclaimer.
EC disposal code no:
16 06 04 Alkaline batteries (except 16 06 03)
Contaminated packaging:
EC codes:
15 01 02 Plastic packaging.

SECTION 14: Transport UN

Classification and labeling Transport on the transport, as indicated in the relevant provisions of the transport units of the prodct.

		ADR/RID	IMO/IMGD/	IATA-DGR
14.1.	**UN number (UN number)**	**3028**	**3028**	**3028**
14.2.	**UN proper shipping name**	**DRY BATTERIES WITH SOLID POTASSIUM HYDROXIDE formed**		
14.3.	**Class (es) in transport threat Warning label No. 8**	**8** 	**8** 	**8** 
14.4.	**Packing Group**	**-**	**-**	**-**
14.5.	**Environmental hazards**	**No**	**Yes**	**No**
14.6.	**Classification Code**	**C11**	**C11**	**C11**

Special precautions for users
Not applicable

14.7. Transport in bulk in accordance with Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

- Regulation (EC) No 1272/2008 (CLP) of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (REACH).

- REGULATION (EC) No 1907/2006 OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

- COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Product has been constructed in such a way as not to pose any hazard to the user. But we can not exclude a situation of stress, resulting from damage to the product.

BATTERY 9V170Ah
Technical data:
Chemical System : Zink - Air Alkaline
Nominal Voltage: 9V
Nominal Capacity: 170 Ah
Nominal Dimension: 189 mm x 125 mm x 160 mm
Terminals: spiral spring
Battery box: plastic
Average Weight: 2950 g
Volume: 3,78 dm3

Warning: Under normal conditions of use, the battery is hermetically sealed. Do not short circuit the battery!!!

The meaning of risk phrases from sections: 2 - 3

R 20/22	Harmful by inhalation and if swallowed.
R 35	Causes severe burns.
R 36/37	Irritating to eyes and respiratory system.
R 50/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H302	Acute Tox 4 Harmful if swallowed.
H332	Acute Tox. 4 Harmful if inhaled.
H314	Skin Corr. 1B Causes severe skin burns and eye damage.
H319	Eye Irrit. 2 Causes serious eye irritation.
H335	STOT SE 3 May cause respiratory irritation.
H400	Aquatic Acute 1 Very toxic to aquatic life.
H410	Aquatic Chronic 1 Very toxic to aquatic life with long lasting effects.

This information is based on the present state of our knowledge, they are no assurance of product features and shall not establish a contractual relationship.

• **Department issuing MSDS:**

• **Abbreviations and Acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of
Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
PP: Severe Marine Pollutant
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

Legend:
n.a. = Not applicable / n.a. = Grouting not / Not avail-able = Checked to / not k.D.v. = No data available
• Data from the previous version changed:

The information in this safety data sheet is required pursuant to EC Directive 91/155/EEC and its amendments.

Note to readers
The information in this SDS is based on our current knowledge and the current legislation.
The product shall not, without first obtaining written Instructions for purposes other than those mentioned in Section 1 purpose be used. It is always the user's responsibility to ensure compliance with statutory Provisions to ensure. The information in this Safety Data Sheet describing the safety requirements for our product.

Safety data sheet was prepared by:
Systemix Sp. z o.o., ul. Lubichowska 176A, 83-200 Starogard Gd.

Version: 1