Avda. El Florío, 75
18015. Granada (Spain)
958 208 900

A FORGED TOOL

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MATERIAL SAFETY DATA SHEET

Expiry Date: 31 Dec. 2024

1. Chemical Product and Company Identification

Product name：DRY BATTERY

Chemical name： ZINC-MANGANESE DRY BATTERY

Chemical formula ： Zn-MnO2

Style: R6P, R03, 3R12

Supplier: A FORGED TOOL, S.A.

Address:. Avda. El Florío 75, 18015 Granada (Spain)

Tel: +34(958)208900 email: info@aftgrupo.com

2. Hazards Identification

General advice: The common known rules for handling of chemicals should be obeyed. These chemicals are contained in a sealed steel can. For consumer use, adequate hazard warnings are printed on both the package and the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically or electrically abused. Concentrated potassium hydroxide contained is caustic. Anticipated potential leakage of potassium hydroxide is 2-20 ml, depending on battery size. Do not eat and drink batteries. Keep batteries away from small children.

Physical-Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC.

Hazards to man: If battery leaking, exposure to caustic ingredients may occur. Therefore, may cause sensitization by skin contract.

Hazards to environment: N.A..

3. Composition and information on ingredients

DESCRIPTION	R20P	R14P	R6P	R03P	3R12	4R25	6F22	CAS NO.
AVERAGE WEIGHT	84.5g	43.5g	15.0g	7.5g	112.0g	540g	35.5g	
MAIN INGREDIENTS								
ZINC	22.62%	26.51%	32.65%	37.40%	23.25%	16.27%	8.95%	07440-66-6

MANGANESE DIOXIDE	29.23%	26.28%	24.80%	23.15%	27.76%	32.96%	27.09%	01313-13-9
CARBON ROD	6.25%	5.36%	6.70%	6.90%	3.85%	5.85%	/	7440-44-0
ACETYLENE BLACK	5.25%	5.36%	5.04%	4.20%	3.95%	4.48%	5.72%	1333-86-4
ZINC CHLORIDE	6.77%	6.50%	5.85%	4.79%	3.10%	3.13%	3.51%	7646-85-7
AMMONIUM CHLORIDE	1.40%	1.30%	1.12%	1.00%	9.65%	11.57%	8.80%	12125-02-9
TIN	2.90%	2.09%	1.30%	1.30%	/	0.33%	21.25%	7440-31-5
BRASS	/	/	1.30%	1.32%	0.98%	0.85%	3.80%	12597-71-6
PAPER	1.80%	2.15%	1.90%	2.65%	2.75%	0.81%	2.30%	201058-08-4
PLASTIC	2.90%	4.14%	2.65%	2.10%	11.77%	11.96%	5.66%	9002-86-2
WATER	18.65%	17.52%	15.60%	14.10%	9.15%	10.09%	6.10%	7732-18-5
ASPHALT（WAX）	2.00%	2.30%	0.90%	0.84%	1.60%	1.30%	6.50%	8052-42-4
MERCURY	<1PPM	<1PPM	<1PPM	<1PPM	<1PPM	<1PPM	<1PPM	7439-97-6
CADMIUM	<80PPM	<90PPM	<100PPM	<130PPM	<80PPM	<60PPM	<80PPM	7440-43-9
LEAD	<900PPM	<1000PPM	<1200PPM	<1500PPM	<900PPM	<645PPM	<950PPM	7782-42-5
STANNUM（TIN）	/	/	/	/	1.05%	0.28%	0.15%	7440-31-5
OTHER	0.23%	0.49%	0.19%	0.25%	1.14%	0.12%	0.17%	
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	

4. First aid Measures

Inhalation: In case of excessive in halation due to leaking batteries remove to fresh air. Obtain medial advice. Skin Contact: If exposed to a leaking battery, remove contaminated clothing. Wash exposed areas with plenty of water and soap. IF irritation occurs, consult a physician. Eye contact: Not anticipated due to size of batteries. Choking may occur with the smaller size batteries. If exposed to a leaking battery, rinse mouth and surrounding areas with running water for at least 15minutes. Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.

5. Fire and Explosion Data

Suitable extinguishing media: Carbon dioxide, foam, dry chemical powder.

Extinguishing media not to be used: Never use a direct water jet.

Exposure hazards from combustion products: In case of fire, carbon monoxide andother

toxic organic substances will be generated. Do not inhale fumes and smoke.

Personal protective equipments: Wear full protective clothing. Use self-contained breathing apparatus.

6. Accidental Release Measures

Personal precautions: Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Avoid eye or skin contact and in halation of vapors. Increase the ventilation. Wear protective clothing. Keep unprotected persons away. Environmental precautions: Avoid discharge and penetration into sewerage systems, waterways, pits, and cellars. Methods for cleaning up: Collect spilled material with an insert standard absorbent like sand or silica. Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

7. Handling and Storage

General handling: follow the common known rules and prec chemicals. Avoid mechanical and electrical abuse. Do not install incorrectly. Batteries may explode, pyrolyze or Crushed, recharged or exposed to high temperatures. Follow equipment instructions. Do not mix battery systems, zinc-carbon. Replace all batteries in equipment at the batteries loose in pocket or bag. Do not remove battery labels. Storage: Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity. Storage at room temperate.

8. Exposure Controls and Personal Protection

Exposition/Technical measures: Atmospheric vapor concentrations must beminimized by adequate ventilation.Protection of hands, eyes and skin: None required under normal use conditions.When handling leaking batteries, use neoprene, rubber or nitrile gloves and wear safety glasses to protect hands, eyes and skin.General safety and hygiene measures: use only as directed.

9. Physical and Chemical properties

Physical state: Stainless steel top battery Cover: Contents dark and gray in color

Odour: N.A.

Melting point: N.A.

Boiling point: N.A.

Flash point: N.A.

Explosion limit: Not available

Ignition temperature: Not available

Vapor pressure: Not available

Specific gravity: N.A.

Solubility in water: N.A.

Solubility in other solvents: N.A.

PH valve: Not available

Partition coefficient: Not available

Viscosity: Not available

10. Stability and Reactivity Data

Thermal decomposition: batteries may burst and release hazardous decomposition products when exposed to fire. Substances to avoid: Strong Oxidation agents. Hazardous reactions: Contents incompatible with strong oxidizing agents. Hazardous decomposition products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapors of potassium hydroxide and other toxic by-products

11. Toxicological Information

Toxicity information is available on the battery ingredients noted in Section Product: Dispose in accordance with appropriate, contact your local government office concerned incinerate, since batteries may explode at excessive temperatures.

12. Ecological Information

Not available

13. Disposal Consideration

Product: Dispose in accordance with appropriate regulations. If in doubt, contact your local government office concerned for information. Do not incinerate, since batteries may explode at excessive temperatures.

14. Transport Information

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner.Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents shortcircuits and be contained in “strong outer packaging” that prevents spillage of contents. All original packaging for drybatteries has been designed to be compliant with these regulatory concerns.

DRY Batteries (sometimes referred to as “Dry cell” batteries) are not listed asdangerous goods under the ADR EuropeanAgreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime DangerousGoods Code, UN

Dangerous Good Regulations, IATA Dangerous Goods Regulations 65nd edition, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions

. Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

AllDry batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat andmeet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructionsrequire the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybillis issued.

15.Other Regulatory Information

Symbol: N/A

EC labeling: None

Risk phrases: None

Safety phrases: None

Labeling is not required because dry batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

16. Other Information

References: N/A

Guidance departments: N/A

Data audit units: N/A

Amended: N/A

Other information: N/A