MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Alkaline Batteries 61833,61834,61835,64247,64248,64249,61836,61837,64250,64251

APPLICATIONS: Various

SUPPLIER: Draper Tools Ltd
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2. Composition /Information on ingredients

MATERIALS	CAS NO.	APPROXIMATE PERCENT OF TOTAL WEIGHT(%)					
		LR20	LR14	LR6-plus	LR03-plus	6LR61	
ZINC POWDER	7440-66-6	17.85	17.59	16.80	14.57	15.85	
MANGANESE DIOXIDE	1313-13-9	43.95	42.25	41.34	38.53	37.15	
GRAPHITE	7782-42-5	3.65	3.35	2.90	2.70	3.30	
STEEL(Fe)	7439-89-6	15.95	17.95	18.63	23.28	24.85	
BRASS	7440-50-8	0.88	1.45	1.83	3.79	3.75	
PLASTIC	32131-17-2	1.35	1.65	1.13	1.12	1.15	
PAPER	---	0.68	0.72	0.67	0.82	1.25	
POTASSIUM HYDROXID	1310-58-3	5.18	4.85	5.68	5.26	5.65	
WATER	7732-18-5	9.25	9.25	9.96	9.22	5.85	
ZINC OXIDE	1314-13-2	0.57	0.50	0.42	0.39	0.45	
MERCURY	7439-97-6	<1ppm	<1ppm	<1ppm	<1ppm	<1ppm	
CADMIUM	7440-43-9	<10ppm	<10ppm	<10ppm	<10ppm	<10ppm	
LEAD	7439-92-1	<20pm	<20pm	<20pm	<20pm	<20pm	
OTHER	---	0.69	0.44	0.63	0.32	0.75	

3. Hazards identifications

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..

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-fighting measures

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 and other 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. Handing and storage

General handling: Obey the common known rules and precautions for handling with chemicals. Avoid mechanical and electrical abuse. Do not short battery or install incorrectly. Batteries may explode, pyrolyze or vent if disassembled. Crushed, recharged or exposed to high temperatures. Install batteries according to equipment instructions. Do not mix battery systems, such as alkaline and zinc-carbon. Replace all batteries in equipment at the same time. Do not carry 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 be minimized 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 Colour: Contents dark and gray in colour
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

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 in formation is available on the battery ingredients noted in Section 2, but in general, N.A. to intact batteries.
Chronic health effects: N.A.

12.Ecological information

Not available

13.Disposable 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

Road(ADR/RID): Not regulated
Air(ICAO/IATA): Not regulated
Sea(IMDG): Not regulated
These batteries are not regulated by international agencies as hazardous materials or dangerous goods when shipped. A shipping name of "Alkaline batteries-Non-hazardous" may be used on all domestic and international bills of lading.

15. Regulatory Information

Symbol: N/A
EC labeling: None
Risk phrases: None
Safety phrases: None
Labeling is not required because alkaline batteries are classified as "articles" under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

16.Other information

The information on this Material Safety Date Sheet(MSDS) was obtained form current and reputable sources. However, the data is provided without any warranty; expressed or implied, regarding its correctness or accuracy. It is the user's responsibility to assume liability on loss, injury, damage, or expense resulting from improper use of this product. Any previous MSDS of this product mentioned above are hereby replaced with this new document. We urge you to make this information available as appropriate in your organization and to any others with whom you arrange to handle this product.