

Material Safety Data Sheet

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK Alkaline Battery K3A, K3A-P

Catalog Number(s): See last page for catalog number(s).

Supplier: Carestream Health, Inc., 150 Verona Street, Rochester, New York, 14608

For Emergency Health Information call, (800) 424-9300

For other information contact 800-328-2910.

Synonym(s): M-0015.000

Primary Application: Calculators, cassette players, photo, radios, toys

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

30-35	Manganese dioxide (001313-13-9)
10-15	Zinc Powder (007440-66-6)
5-10	Potassium hydroxide (001310-58-3)
5-10	Water (007732-18-5)
1-5	Graphite (007782-42-5)
25-30	Steel Casing (not applicable)
1-5	Paper (not applicable)
1-5	Alloy brassy (not applicable)
1-5	Plastic (not applicable)
1-5	Metalized plastic label (not applicable)

Weight % listed is based on approximate percent of the average weight of the battery (11.4 grams).

The components in this section may only represent a hazard if the integrity of the battery is compromised.

3. HAZARDS IDENTIFICATION

CONTAINS: Potassium hydroxide (001310-58-3), Manganese dioxide (001313-13-9), Graphite (007782-42-5)

WARNING!

HARMFUL IF SWALLOWED

MAY VENT, LEAK AND/OR EXPLODE IF OPENED, RECHARGED, CONNECTED IMPROPERLY, OR EXPOSED TO FIRE OR HIGH TEMPERATURES.

VAPORS/FUMES FROM DAMAGED BATTERIES MAY CAUSE RESPIRATORY TRACT IRRITATION

DAMAGED BATTERIES MAY CAUSE SKIN AND EYE BURNS

4. FIRST-AID MEASURES

Note: The routine handling and use of intact, non-damaged batteries is not

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expected to result in situations that require first-aid measures. If battery is damaged due to opening, cutting, crushing, overheating, improper installation, exposure to fire or high temperatures, or recharging, battery contents may be released.

Inhalation: If vapors or fumes from vented or leaking battery are irritating to respiratory tract, move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eyes: In case of contact with battery contents (liquid or metal), immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: In case of contact with battery contents (liquid or metal), immediately remove metal fragments and flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. Get medical attention immediately.

Ingestion: Call a physician or poison control center immediately for any actual or suspected ingestion. All batteries may be harmful if swallowed. Do NOT induce vomiting. Batteries may lodge in the throat or digestive tract and fragment. If battery was leaking or was chewed, rinse mouth thoroughly with water.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use appropriate agent for adjacent fire.

Special Fire-Fighting Procedures: Fire or excessive heat may produce hazardous decomposition products. Wear self-contained breathing apparatus and protective clothing.

Hazardous Combustion Products: Oxides of manganese, oxides of zinc

Unusual Fire and Explosion Hazards: Fire or high temperatures may cause battery to vent and/or explode or leak hazardous vapors. Damaged or opened batteries can result in rapid heating and the release of hazardous vapors.

6. ACCIDENTAL RELEASE MEASURES

Not applicable

7. HANDLING AND STORAGE

Personal Precautionary Measures: If battery has been damaged, do not breathe fumes or vapors. Do not get battery contents in eyes, on skin, on clothing. Wash thoroughly after handling.

Prevention of Fire and Explosion: DO NOT DISASSEMBLE. Keep away from heat and flame. DO NOT RECHARGE. Charging may result in electrolyte leakage and/or explosion. Avoid the use of old and new batteries or batteries of varying sizes and types in the same battery assembly. The batteries electrical characteristics and capabilities may vary and damage may result to the batteries or electrical equipment. Avoid encasing in airtight compartments. Flammable hydrogen gas, normally generated, can form explosive mixtures.

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Provisions for venting must be provided. Avoid reversing polarity within a device or a battery assembly. To do so may cause leakage and/or explosion.

Storage: Store in cool, dry place. Protect from direct sunlight. Storage above 21°C (70°F) may affect product quality. Do not store in a manner that allows terminals to short circuit. Extended short circuiting creates high temperatures in the battery. High temperatures can cause leakage and/or explosion. Short circuiting may reduce battery service life.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Potassium hydroxide: 2 mg/m3 Ceiling

Graphite: 2 mg/m3 TWA

Manganese dioxide: 0.2 mg/m3 TWA as manganese

OSHA (USA) Permissible Exposure Limit (PEL - 1971 Table Z-1 Values):

Graphite: 15 mg/m3 TWA Total dust; 5 mg/m3 TWA Respirable fraction

Manganese dioxide: 5 mg/m3 TWA as manganese

Ventilation: Supplemental ventilation may be needed in special circumstances to control fumes/vapors to an acceptable level.

Respiratory Protection: None should be needed.

Eye Protection: When handling a damaged battery, wear safety glasses with side shields (or goggles).

Skin Protection: When handling a damaged battery, wear impervious gloves.

Recommended Decontamination Facilities: Washing facilities

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Solid

Color: Not applicable

Odor: Odorless

Specific Gravity (water = 1): Not applicable

Vapor Pressure: Negligible

Vapor Density (Air = 1): Not applicable

Volatile Fraction by Weight: Not applicable

Melting Point: Not applicable

Solubility in Water: Insoluble

pH: Not applicable

Flash Point: Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use.

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Incompatibility: None with common materials and contaminants with which the material may reasonably come into contact.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

General: Since the materials in this battery are sealed in the battery case, the potential for exposure to the components of the battery is negligible when the battery is used as directed. However, technical or electrical abuse of the battery may result in the release of battery contents.

Inhalation: Expected to be a low hazard for recommended handling. Vapors/fumes from damaged batteries may cause respiratory tract irritation.

Eyes: Contact with electrolyte (liquid) causes burns. Contact with metal fragments may cause burns or mechanical injury.

Skin: Contact with electrolyte (liquid) causes burns. Contact with metal fragments may cause burns or mechanical injury.

Ingestion: All batteries may be harmful if swallowed. May cause burns of the gastrointestinal tract.

Note to Physicians: Battery ingestions should not be managed in the same way as other small metallic object ingestions, eg., coins. The position and integrity of the battery in the gastrointestinal tract should be assessed and monitored by x-ray. Leaking batteries may cause necrosis and tissue damage. Most batteries smaller than 22-25 mm in diameter will pass safely through the gut. Larger batteries or batteries that lodge in the gastrointestinal tract may have to be removed endoscopically or surgically.

12. ECOLOGICAL INFORMATION

This material has not been tested for environmental effects.

13. DISPOSAL CONSIDERATIONS

DO NOT INCINERATE or expose to fire. Discharge, treatment, or disposal may be subject to national, state, or local laws.

14. TRANSPORT INFORMATION

For more transportation information, go to: <http://ship.carestreamhealth.com>.

15. REGULATORY INFORMATION

- Material(s) known to the State of California to cause cancer: None
- Material(s) known to the State of California to cause adverse reproductive effects: None

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- Carcinogenicity Classification (components present at 0.1% or more):
 - International Agency for Research on Cancer (IARC): None
 - American Conference of Governmental Industrial Hygienists (ACGIH): None
 - National Toxicology Program (NTP): None
 - Occupational Safety and Health Administration (OSHA): None

 - Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: Not applicable

16. OTHER INFORMATION

Keep out of reach of children. If swallowed, seek medical advice.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

Catalog Number(s):

118 7210 - K3A-N48
126 2435 - K3A-BP1500
135 6328 - K3A-4P
143 2293 - K3A-PN12 Intermediate Bulk
164 8492 - K3A-4P
167 0157 - K3A-P2
167 0157 - K3A-PB500
199 0639 - K3A-2P
511 3329 - K3A-4P
714 1559 - K3A-PB460
808 0947 - K3A-S8
833 1464 - K3A-PB500
861 2673 - K3A-2PX
870 6491 - K3A-4P
880 0880 - K3A-2P
105 3800 - K3A-NG12
811 4795 - K3A-2
107 0382 - K3A-2
115 7882 - K3A-4
135 9132 - K3A-B1500
179 1490 - K3A
194 6706 - K3A-B500
130 0300 - K3A-B500
808 0947 - K3A-S8
819 8475 - K3A-2
834 8146 - K3A-S8VP
852 2997 - K3A-NG12
879 0107 - K3A-2
887 0271 - K3A-2B50
894 5347 - K3A-S16WMC
105 7280 - K3A-B500
189 2363 - K3A-F2
192 6468 - K3A-N48

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511	3311	-	K3A-4
822	9429	-	K3A-4
825	1621	-	K3A-N10
884	3898	-	K3A-4
178	0659	-	K3A-2
854	7325	-	K3A-4
855	4503	-	K3A-B500
867	0671	-	K3A-N24 Intermediate Bulk
812	5775	-	K3A-26AR
833	9384	-	K3A-2 VALUE
881	2205	-	K3A-2 PK
932	5614	-	K3A-2 PRC
936	1221	-	K3A-2 PRC
805	6921	-	K3A-2 PRC
825	8428	-	K3A-4 GAR
873	2430	-	K3A-4 VALUE
882	3858	-	K3A-4 PK
932	5630	-	K3A-4 PRC
936	1247	-	K3A-4 PRC
936	1087	-	K3A-8 PRC
936	1049	-	K3A-B500 PRC
890	3080	-	K3A-B500 VALUE
936	1064	-	K3A-2B500 PRC
144	3183	-	K3A-4B440
817	4351	-	K3A-2B1904 INDIA PWCL
2J	9813	-	K3A-2B1904 INDIA MAX
894	0520	-	K3A-2 INDIA PWCL
490	7796	-	K3A-2 INDIA PWCL
846	4547	-	K3A-2 KOREA
832	4352	-	K3A-4 KOREA
890	0011	-	K3A-6+2 KOREA
872	3462	-	K3A-12 KOREA
835	7816	-	K3A-2 KOREA
848	5997	-	K3A-4 SWAC
806	0410	-	K3A-6+2 SWAC
851	5272	-	K3A-12 SWAC
860	3375	-	K3A-2 SWAC
527	7686	-	K3A-4
527	7736	-	K3A-4 EC
527	4857	-	K3A-P2B500 EC
832	9468	-	K3A-2
886	1726	-	K3A-4
818	7593	-	K3A-20
897	5187	-	K3A-20/2-TRAY CM
802	8086	-	K3A-4X12 AMER
838	1964	-	K3A-S12
182	4465	-	K3A-S12 AMER
842	9896	-	K3A-S12 WOLF
144	3183	-	K3A-4B440
109	6064	-	K3A-P4B440