

# MATERIAL SAFETY DATA SHEET

For R&D use only. Not for drug, household or other uses.

Click <http://www.lookchem.com/cas-210/21041-95-2.html> for suppliers of this product.

## Composition/Information on Ingredient

**Cas:**  
21041-95-2  
**Code:**  
M  
**RTECS:**  
  
**Code:**  
X  
**Name:**  
CADMIUM HYDROXIDE  
**Other REC Limits:**  
NONE RECOMMENDED  
**OSHA PEL:**  
0.05 MG CD/M3  
**Code:**  
M  
**OSHA STEL:**  
  
**Code:**  
  
**ACGIH TLV:**  
0.05 MG CD/M3  
**Code:**  
M  
**ACGIHSTEL:**  
N/P  
**Code:**

## Control Measures

**Respiratory Protection:**  
IF INCINERATED, USE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS OR SUPPLIED AIR RESPIRATOR WITH FULL FACEPIECE, OPERATED IN POSITIVE PRESSURE MODE.  
**Ventilation:**  
USE ADEQUATE LOCAL EXHAUST VENTILATION WHEN FUMES PRESENT.  
**Protective Gloves:**  
NEOPRENE, NITRILE FOR LEAKERS  
**Eye Protection:**  
CHEMICAL SPLASH GOGGLES FOR LEAKERS  
**Other Protective Equipment:**  
Equipment EYE WASH STATION, QUICK DRENCH SHOWER AND IMPERVIOUS CLOTHING  
**Work Hygienic Practices:**  
OBSERVE GOOD INDUSTRIAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES. WASH THOROUGHLY BEFORE EATING, DRINKING/SMOKING.  
**Supplemental Safety and Health:**  
DO NOT GET ELECTROLYTE ON SKIN OR IN EYES. MANUFACTURE'S MSDS LISTED PROPERTIES OF INDIVIDUAL INGREDIENTS IN DRY FORM. THE MAJOR HAZARD FROM THIS BATTERY IS THE ELECTROLYTE, A POTASSIUM HYDROXIDE AQUE OUS SOLUTION.

## Health Hazards Data

**LD50LC50Mixture:**  
LD50 (ORAL, RAT) IS NOT RELEVANT.  
**Route Of Entry Inds - Inhalation:**  
NO  
**Skin:**  
NO  
**Ingestion:**  
YES  
**Carcinogenicity Inds - NTP:**  
YES  
**IARC:**  
YES  
**OSHA:**  
YES  
**Health Hazards Acute And Chronic:**  
TARGET ORGANS:EYES, SKIN, RESPIRATORY, GI TRACTS. ACUTE- NONE. IF INCINERATED/LEAKING, KOH CAN CAUSE SEVERE IRRITATION/BURNS TO TISSUE CONTACTED. CAN CAUSE BLINDNESS. NICKEL MAY CAUSE SKIN SENSITIZATI ON. INGESTION CAN BE HARMFUL/FATAL. CHRONIC- CADMIUM MAY CAUSE LUNG OR KIDNEY DAMAGE. NICKEL MAY CAUSE LUNG DAMAGE.  
**Explanation Of Carcinogenicity:**  
CONTAINS CADMIUM [7440-43-9] WHICH IS LISTED BY NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN. ALSO CONTAINS NICKEL  
**Signs And Symptions Of Overexposure:**  
NONE UNDER NORMAL CONDITIONS OF USE. IF LEAKING OR INCINERATED: SEVERE IRRITATION, BURNS, CHEST PAIN, COUGHING, SWEATING, CHILLS, SHORTNESS OF BREATH, WEAKNESS, BLINDNESS, NICKEL ITCH  
**Medical Cond Aggravated By Exposure:**  
IF INCINERATED, PERSONS WITH PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS OR IMPAIRED LIVER, KIDNEY, PROSTATE OR RESPIRATORY FUNCTION MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.  
**First Aid:**  
GET MEDICAL ATTENTION IMMEDIATELY. EYE/SKIN:IF CONTACT WITH POTASSIUM HYDROXIDE ELECTROLYTE, IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS OPEN. 4 VINEGAR MAY BE USED TO NEUTRALIZE KOH ON SKIN. INHALED:REMOVE TO FRESH AIR. PROVIDE OXYGEN/CPR IF NEEDED. ORAL:IF CONSCIOUS, WASH OUT MOUTH WITH WATER.  
**Spill Release Procedures:**  
BATTERY AND CELL CASES WILL NORMALLY CONTAIN MATERIALS OF CONCERN. USE INDUSTRIAL ABSORBENT TO COLLECT LIQUID POTASSIUM HYDROXIDE. WEAR RUBBER GLOVES. NEUTRALIZE WITH CITRIC ACID.  
**Neutralizing Agent:**  
CITRIC ACID  
**Waste Disposal Methods:**  
CELLS AND BATTERIES MAY BE RETURNED AT SENDERS EXPENSE TO A PERMITTED TREATMENT , STORAGE, DISPOSAL FACILITY (TSDF). DISPOSAL MUST BE MADE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAW S AND REGULATIONS.  
**Handling And Storage Precautions:**  
DO NOT INVERT. DO NOT SHORT CIRCUIT. AVOID BREAKING, CRUSHING OR OTHERWISE DESTROYING THE PHYSICAL INTEGRITY OF THE CELL OR BATTERY.  
**Other Precautions:**  
DO NOT INCINERATE. DO NOT TOUCH BROKEN OR LEAKING BATTERIES. WASH THOROUGHLY AFTER HANDLING. AVOID BREATHING FUMES. KEEP OUT OF REACH OF SMALL CHILDREN. NO SMOKING DURING BATTERY CHARGING. ALWAYS USE EXTREME CARE. AVOID OPEN FLAME.

## Fire and Explosion Hazard Information

**Flash Point Method:**  
N/P  
**Flash Point:**  
  
**Flash Point Text:**  
NONE  
**Autoignition Temp:**  
  
**Autoignition Temp Text:**  
N/R  
**Lower Limits:**  
NOT RELEVANT  
**Upper Limits:**  
NOT RELEVANT  
**Extinguishing Media:**  
WATER SPRAY, CARBON DIOXIDE, FOAM OR DRY CHEMICAL FOR SURROUNDING FIRE. USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS.  
**Fire Fighting Procedures:**  
WEAR PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS. HAZARDOUS DECOMPOSITION PRODUCTS MAY BE FORMED. 5  
**Unusual Fire/Explosion Hazard:**  
CADMIUM AND NICKEL FUMES ARE TOXIC AND CAN CAUSE DEATH.

## Physical/Chemical Properties

**HCC:**  
B1  
**NRC/State LIC No:**  
NOT RELEVANT  
**Net Prop WT For Ammo:**  
  
**Boiling Point:**  
  
**B.P. Text:**  
N/R 6  
**Melt /Freeze Pt:**  
  
**M.P/F.P Text:**  
N/R  
**Decomp Temp:**  
  
**Decomp Text:**  
N/R  
**Vapor Pres:**  
N/R  
**Vapor Density:**  
N/R  
**Volatile Org Content %:**  
  
**Spec Gravity:**  
NOT RELEVANT  
**VOC Pounds/Gallon:**  
  
**PH:** N/R  
**VOC Grams/Liter:**  
  
**Viscosity:**  
NOT RELEVANT  
**Evaporation Rate & Reference:**  
NOT RELEVANT  
**Solubility in Water:**  
NOT RELEVANT  
**Appearance and Odor:**  
BATTERY - NO ODOR  
**Percent Volatiles by Volume:**  
N/R  
**Corrosion Rate:**  
UNKNOWN

## Reactivity Data

**Stability Indicator:**  
YES  
**Stability Condition To Avoid:**  
EXCESSIVE HEAT, FIRE  
**Materials To Avoid:**  
STRONG OXIDIZING AGENTS, NITRATES, NITRIC ACID  
**Hazardous Decomposition Products:**  
TOXIC FUMES OF CADMIUM OXIDE, NICKEL OXIDE MAY BE FORMED.  
**Hazardous Polymerization Indicator:**  
NO  
**Conditions To Avoid Polymerization:**  
NOT RELEVANT

## Toxicological Information

**Information:**N/P

## MSDS Transport Information

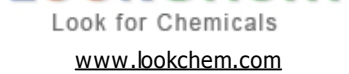
**Information:**N/P

## Regulatory Information

**Sara Title III Information:** N/P  
**Federal Regulatory Information:** N/P  
**State Regulatory Information:** N/P

## Other Information

**Other Information:**N/P



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WARRANTY  
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.