

MATERIAL SAFETY DATA SHEET

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

Click <http://www.lookchem.com/cas-131/1313-99-1.html> for suppliers of this product.

Composition/Information on Ingredient

Cas:
1313-99-1

Code:
M

RTECS:
QR8400000

Code:
M

Name:
NICKEL OXIDE

Other REC Limits:
NONE RECOMMENDED

OSHA PEL:
1 MG/M3 AS NI

Code:
M

OSHA STEL:

Code:

ACGIH TLV:
1 MG/M3 AS NI

Code:
M N/P

ACGIHSTEL:
EPA Rpt Qty: DOT Rpt Qty: Ozone Depleting Chem

Code:
1 ACGIH STEL:

Control Measures

Respiratory Protection:
NONE NORMALLY REQUIRED. IF EMERGENCY OCCURS; USE NIOSH/MSHA APPROVED RESPIRATOR. USE IN ACCORDANCE WITH 29 CFR 1910.134 AND THE RESPIRATOR MANUFACTURER'S RECOMMENDATIONS.

Ventilation:
USE ADEQUATE MECHANICAL VENTILATION OR LOCAL EXHAUST TO MAINTAIN EXPOSURE BELOW PEL/TLV.

Protective Gloves:
PVC OR NEOPRENE IF SPILLED OR BROKEN

Eye Protection:
SAFETY GLASSES

Other Protective Equipment:
Equipment WEAR COVERALLS WHEN HANDLING. DLA-HMIS:EYE WASH STATION &SAFETY SHOWER AVAILABLE.

Work Hygienic Practices:
WASH HANDS AFTER USE AND BEFORE EATING, DRINKING, OR SMOKING. LAUNDER CONTAMINATED CLOTHES BEFORE REUSE.

Supplemental Safety and Health:
N/P

Health Hazards Data

LD50LC50Mixture:
ORAL LD50 (RAT) IS UNKNOWN

Route Of Entry Inds - Inhalation:
YES

Skin:
NO

Ingestion:
YES

Carcinogenicity Inds - NTP:
YES

IARC:
YES

OSHA:
YES

Health Hazards Acute And Chronic:
ACUTE:CONTACT WITH ELECTROLYTE MAY CAUSE SKIN & EYE IRRITATION OR BURNS;PERMANEANT EYE DAMAGE/BLINDNESS.INGESTION OF ELECTROLYTE MAY CAUSE TISSUE DAMAGE TO THROAT & GI TRACT;INTESTINAL DISORDERS.INHAL ATION MAY CAUSE RESPIRATORY TRACT IRRITATION.CHRONIC:PROLONGED/REPEATED EXPOSURE MAY CAUSE RESPIRATORY/KIDNEY DAMAGE.

Explanation Of Carcinogenicity:
CONTAINS CADMIUM AND NICKEL AND THEIR COMPOUNDS WHICH ARE LISTED BY NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN.

Signs And Symptions Of Overexposure:
INHALED: COUGHING, SNEEZING, WHEEZING, SHORTNESS OF BREATH, CHILLS, WEAKNESS, COUGHING, CHEST PAINS. SKIN: REDNESS, ITCHING, DISCOMFORT. INGESTED: NAUSEA, VOMITING, DIARRHEA, ABDOMINAL CRAMPS.

Medical Cond Aggravated By Exposure:
NONE SPECIFIED BY MANUFACTURER. DLA-HMIS: RESPIRATORY SYSTEM DISORDERS, PROSTATE DISORDERS, LIVER AND KIDNEY DISORDERS.

First Aid:
INHALATION-REMOVE TO FRESH AIR.GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING.GET MEDICAL ATTENTION.EYE-FLUSH WITH WATER FOR 15 MINUTES.GET MEDICAL ATTENTION.SKIN-FLUSH WITH WATER.REMOVE CONTAMINATED CL OTHING.GET MEDICAL ATTENTION.INGESTION-DO NOT INDUCE VOMITING.IF CONSCIOUS,GIVE WATER TO DILUTE.GET MEDICAL ATTENTION.

Spill Release Procedures:
WEAR PROPER PROTECTIVE CLOTHING/EQUIPMENT. CONTAIN SPILL. FLUSH WITH WATER AND NEUTRALIZE WITH DILUTE CITRIC ACID SOLUTION.

Neutralizing Agent:
DILUTE CITRIC ACID SOLUTION.

Waste Disposal Methods:
THE BATTERY IS A HAZARDOUS WASTE UNDER RCRA. IT MAY BE RETURNED TO SAFT FOR RECYCLING. BATTERY IS TCLP TOXIC. BATTERY AND ELECTROLYTE SOLUTION ARE CORROSIVE. IF NOT RECYLCED, MUST BE DISPOSED OF IN AC CORDANCE WITH LOCAL, STATE AND FEDERAL REGULATION.

Handling And Storage Precautions:
STORE IN A COOL, DRY AREA.

Other Precautions:
DO TRANSPORT UNLESS VENT CAP IS IN PLACE. WHEN REMOVING BATTERY, VISUALLY INSPECT FOR LEAKAGE PRIOR TO HANDLING. IF LEAKAGE HAS OCCURRED, FOLLOW SPILL/RELEASE PROCEDURES. BATTERY MAY CONTAIN HIGH ELEC TRICAL CHARGE, AVOID SHORTS/MISUSE.

Fire and Explosion Hazard Information

Flash Point Method:
N/P

Flash Point:

Flash Point Text:
NOT APPLICABLE 3

Autoignition Temp:

Autoignition Temp Text:
N/R

Lower Limits:
N/R

Upper Limits:
N/R

Extinguishing Media:
CARBON DIOXIDE, SAND.

Fire Fighting Procedures:
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. DISCONNECT OR CUT ALL CABLES TO & FROM BATTERY.

Unusual Fire/Explosion Hazard:
ELECTROLYTE IS CORROSIVE TO BODY TISSUES; IT MAY REACT WITH MANY ORGANIC COMPOUNDS, ACTIVE METALS. CADMIUM FUMES MAY BE RELEASED WHEN BATTERY SUNJECTED TO FIRE.

Physical/Chemical Properties

HCC:
B1

NRC/State LIC No:
N/R

Net Prop WT For Ammo:

Boiling Point:

B.P. Text:
UNKNOWN

Melt/Freeze Pt:

M.P/F.P Text:
UNKNOWN

Decomp Temp:

Decomp Text:
UNKNOWN

Vapor Pres:
UNKNOWN

Vapor Density:
UNKNOWN

Volatile Org Content %:

Spec Gravity:
1.2-ELECTROLYTE 4

VOC Pounds/Gallon:

PH: N/K

VOC Grams/Liter:

Viscosity:
UNKNOWN

Evaporation Rate & Reference:
UNKNOWN

Solubility in Water:
COMPLETE-ELECTROLYTE

Appearance and Odor:
BATTERY; 0.94 BY 2.17 BY 4.090 INCHES; 5 AMP/HOUR; FILLING PLUG OPENINGS.

Percent Volatiles by Volume:
N/K

Corrosion Rate:
UNKNOWN

Reactivity Data

Stability Indicator:
YES

Stability Condition To Avoid:
DO NOT ADD SULFURIC ACID TO BATTERY!! KEEP AWAY FROM INCOMPATIBLE MATERIALS. ENSURE PROPER VENTING.

Materials To Avoid:
ELECTROLYTE-ALUMINUM, ZINC, TIN, OTHER ACTIVE METALS, CHLORINATED &AROMATIC HYDROCARBONS, TRICHLORETHYLENE.

Hazardous Decomposition Products:
NICKEL OXIDE, CADMIUM, CADMIUM OXIDE, POTASSIUM HYDROXIDE. HYDROGEN GAS FORMED DURING NORMAL OPERATIONS OF BATTERY.

Hazardous Polymerization Indicator:
NO

Conditions To Avoid Polymerization:
WILL NOT OCCUR.

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