

NAVAL MINE WARFARE ENGINEERING ACTIVITY -- DISCHARGED BATTERY DRY CARBON-ZINC,  
MK105-0 -- 6135-00-008-5341

===== Product Identification =====

Product ID:DISCHARGED BATTERY DRY CARBON-ZINC, MK105-0

MSDS Date:02/08/1991

FSC:6135

NIIN:00-008-5341

MSDS Number: BNMMB

=== Responsible Party ===

Company Name:NAVAL MINE WARFARE ENGINEERING ACTIVITY

Address:CODE 60 BUILDING 1959

City:YORKTOWN

State:VA

ZIP:2

3691-5076

Country:US

Info Phone Num:804-887-4930

Emergency Phone Num:804-887-4930

Preparer's Name:ANN ALLEN

CAGE:30265

=== Contractor Identification ===

Company Name:HOECHST CELANESE CHEM GROUP

Box:City:DALLAS

State:TX

ZIP:75356-9320

Country:US

Phone:214-689-4000

CAGE:10001

Company Name:NAVAL MINE WARFARE ENGINEERING ACTIVITY

Address:CODE 60 BUILDING 1959

Box:City:YORKTOWN

State:VA

ZIP:23691-5076

Country:US

Phone:804-887-4930

CAGE:30265

===== Composition/Information on Ingredients =====

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Ingred Name:MERCURY  
CAS:7439-97-6  
RTECS #:OV4550000  
Fraction by Wt: 0.01%  
OSHA PEL:0.1 MG/M3, S, C  
ACGIH TLV:0.05 MG/M3, S  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:ZINC CHLORIDE  
CAS:7646-85-7  
RTECS #:ZH1400000  
Fraction by Wt: 4.0%  
OSHA PEL:1 MG/M3/2 STEL  
ACGIH TLV:1 MG/M3/2STEL FUME93  
EPA Rpt Qty:1000 LBS  
DOT Rpt Qty:1000 LBS

Ingred Name:AMMONIUM CHLORIDE  
CAS:12125-02-9  
RTECS #:BP4550000  
Fraction by Wt: 4.0%  
OSHA PEL:10MG/M3;20STEL, FUME  
ACGIH TLV:10MG/M3;20STEL, FUME  
EPA Rpt  
Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:MANGANESE DIOXIDE  
CAS:1313-13-9  
RTECS #:OP0350000  
Fraction by Wt: 29.0%  
OSHA PEL:5 MG/M3 CEILING (MN)  
ACGIH TLV:5 MG/M3 (AS MN DUST)

Ingred Name:CARBON BLACK  
CAS:1333-86-4  
RTECS #:FF5800000  
Fraction by Wt: 11.0%  
OSHA PEL:3.5 MG/M3  
ACGIH TLV:3.5 MG/M3

Ingred Name:GRAPHITE  
CAS:7782-42-5  
RTECS #:MD9659600  
Other REC Limits:15 MPPCF (MFR)  
OSHA PEL:15 MPPCF RDUST  
ACGIH TLV:2 MG/M3 RDUST; 9293

Ingred Name:MANGANESE  
CAS:7439-96-5  
RTECS #:OO9275000  
OSHA P

EL:(C) 5 MG/M3 DUST  
ACGIH TLV:5 MG/M3 DUST 9293

Ingred Name:ZINC OXIDE  
CAS:1314-13-2  
RTECS #:ZH4810000  
OSHA PEL:15MG/M3 TDUST/5 FUME  
ACGIH TLV:10MG/M3 TDUST; 9293

Ingred Name:AMMONIA  
CAS:7664-41-7  
RTECS #:BO0875000  
Other REC Limits:35 MG/M3 (MFR)  
OSHA PEL:50 PPM  
ACGIH TLV:25 PPM/35 STEL; 9293  
EPA Rpt Qty:100 LBS  
DOT Rpt Qty:100 LBS

===== Hazards Identification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.  
Routes of Entry: Inhalation:YES Skin:NO I  
ngestion:NO  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:IN FIRE SITUATION, CELLS MAY RELEASE  
HAZ SUBSTANCES. ACUTE: INHAL: MAY CAUSE IRRITATION OR METAL FUME  
FEVER IN FIRE SITUATION. INGEST: INGREDIENTS ARE POISONOUS.  
CONTACT: MATERIALS MAY CAUSE SKIN OR E YE IRRITATION BY VAPOR OR  
DIRECT CONTACT. CHRONIC: NOT LIKELY UNDER NORMAL USE. MANGANES & ZN  
CHLORIDE (EFTS OF OVEREXP)  
Explanation of Carcinogenicity:NOT RELEVANT.  
Effects of Over  
exposure:HLTH HAZ: ARE EXPERIMENTAL MUTAGENS & TUMOR  
PRODUCERS. ZN CHLORIDE IS AN EXPERIMENTAL TERATOGEN.  
Medical Cond Aggravated by Exposure:RESPIRATORY INFECTIONS AND  
DISEASES. SKIN DISEASES.

===== First Aid Measures =====

First Aid:INHAL:REMOVE TO FRESH AIR, USE ARTF RESP IF NEEDED. SEEK MED  
ATTN. EYES:FLUSH @ LST 15 MIN W/FRESH RUNNING H\*20, OCCAS LIFTING  
UPPER & LOWER LID. SEEK MED ATTN. SKIN:THORO WASH AFFECTED AREA  
UNTIL NO TRAC

E OF MATL REMAINS. INGEST:NOT LIKELY UNDER NORMAL USE. IF INGEST SHOULD OCCUR, GET IMMEDIATE MED ATTENTION. DRINK LARGE QUANTITY OF WATER. EXPOSURE IN FIRE:REMOVE VICTIM FROM FIRE HAZARD AREA TO FRESH AIR. SEEK MEDICAL ATTENTION.

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===== Fire Fighting Measures =====

Flash Point:NOT KNOWN

Extinguishing Media:IN BULK STORAGE USE CO<sub>2</sub>, FOAM OR DRY POWDER. WATER MAY CAUSE ELECTRICAL SHORTS.

Fire Fighting Procedures:WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT .

Un

usual Fire/Explosion Hazard:CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT.

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===== Accidental Release Measures =====

Spill Release Procedures:BATTERIES ARE DRY SOLID & CAN BE HANDLED EASILY WITH SHOVELS/SIMILAR EQUIP. WHEN ACCUMULATING LARGE QUANTITY OF UNDISCHARGED BATTERIES FOR DISPOSAL PACK IN NON-CONDUCTIVE INSULATING MATERIAL. AVOID HEAT & WATER. USE RUBBER GLOVES FOR CLEANING UP SPILLS/HANDLING (SUPPLEMENTAL DATA)

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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===== Handling and Storage =====

Handling and Storage Precautions:DO NOT STORE UNPACKAGED CELLS TOGETHER SO CONTACTS CAN TOUCH. THIS SITUATION WILL RESULT IN CELL SHORTING AND HEAT BUILD-UP.

Other Precautions:DO NOT CHARGE, OVERHEAT (>160°F), OR OPEN CELLS. AVOID CONTACT WITH WATER.

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===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE NEEDED UNDER NORMAL USE. USE NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN .

Ventilation:NONE NEEDED.

Protective Gloves:RUBBER GLOVES TO HANDLE INTERNAL COMPONENTS.

Eye Protection:CHEMICAL WORKERS GOGGLES IF CELLS OPENED.

Other Protective Equipment:NONE REQUIRED UNDER NORMAL USE.

Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.

Supplemental Safety and Health

HAZARD DECOMPOSITION: ZINC CHLORIDE FUMES MAY BE EMITTED. SPILL PROCEDURE:INTERNAL PARTS OF CELLS. USE ADEQUATE VENTILATION AND AVOID CONTACT OF CELL INTERNAL COMPONENTS WITH SKIN OR EYES.

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==== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:>212F,>100C

Vapor Density:>1

Spec Gravity:>1

Evaporation Rate & Reference:>1(BUTYL ACETATE=1)

Solubility in Water:NEGLIGIBLE

Appearance and Odor:BLACK SOLID GRANULES W/POSSIBLE AMMONIA ODOR,  
ENCASED IN BATTERY ASSEMBLY

==== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

KEEP AWAY FROM WATER.

Stability Condition to Avoid:EXCESSIVE HEAT AND FIRE (HEATING ABOVE

160F), CHARGING.

Hazardous Decomposition Products:IN FIRE SITUATION, MERCURY VAP,  
AMMONIA CHLORIDE, AMMONIA, NITROUS OXIDES, CHLORINE, MANGANESE,  
ZINC OXIDE & (SUPP DATA)

==== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL,  
STATE, AND LOCAL REGULATIONS. DISPOSAL BY LANDFILL MAY BE ILLEGAL  
IN SOME AREAS.

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