

JOHNSON CONTROLS, INC AUTOMOTIVE SYSTEMS GROUP -- LEAD ACID BATTERY, SEE SUPPL
DATA -- 6140-01-433-1883

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

Product ID:LEAD ACID BATTERY, SEE SUPPL DATA

MSDS Date:06/02/2000

FSC:6140

NIIN:01-433-1883

Status Code:A

MSDS Number: CLDND

=== Responsible Party ===

Company Name:JOHNSON CONTROLS, INC AUTOMOTIVE SYSTEMS GROUP

Box:591

City:MILWAUKEE

State:WI

ZIP:53201

Country

:US

Info Phone Num:800 333-2222EXT 3138 800-424-9300

Emergency Phone Num:800-333-2222X3138 800-424-9300

Resp. Party Other MSDS Num.:L8

Chemtrec Ind/Phone:(800)424-9300

CAGE:1S062

=== Contractor Identification ===

Company Name:CELL ENERGY INC

Address:3190-B ORANGE GROVE AVE

Box:City:NORTH HIGHLANDS

State:CA

ZIP:95660-5706

Country:US

Phone:916-484-7974

CAGE:1U269

Company Name:INTERSTATE BATTERY SYSTEM OF CALIFORNIA

Address:13462 16TH AVE

Box:522

City:LEMOORE

State:CA

ZIP:93245

Country:US

Phone:209

-582-4725/FAX 209-526-2057

CAGE:1GKA1

Company Name:JOHNSON CONTROLS INC GLOBE BATTERY DIV

Address:5757 N GREEN BAY AVE

Box:591

City:MILWAUKEE

State:WI

ZIP:53201

Country:US

Phone:800-365-7777

CAGE:25244

Company Name:JOHNSON CONTROLS, INC AUTOMOTIVE SYSTEMS GROUP

Box:591

City:MILWAUKEE

State:WI

ZIP:53201

Country:US

Phone:800 333-2222EXT 3138 800-424-9300

CAGE:1S062

Company Name:NETKOMP

Address:512 CHELSEA DR

Box:City:HENDERSON

State:NV

ZIP:89014-3902

Country:US

Phone:702-436-7883

Contract Num:SP04

00-01-V-0852

CAGE:1P4D9

Company Name:NETKOMP

Address:512 CHELSEA DR

Box:City:HENDERSON

State:NV

ZIP:89014-3902

Country:US

Phone:702-436-7883

Contract Num:SP0430-01-M-NJ21

CAGE:1P4D9

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

Ingred Name:LEAD (GRID)

CAS:7439-92-1

RTECS #:OF7525000

= Wt:34.

Other REC Limits:100 UG/M3 NIOSH

OSHA PEL:50 UG/M3

ACGIH TLV:150 UG/M3

EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

Ingred Name:LEAD DIOXIDE (LEAD OXIDE)

CAS:1309-60-0

RTECS #:OG0700000

= Wt:3

1.

Other REC Limits:100 UG/M3 NIOSH

OSHA PEL:50 UG.M3

ACGIH TLV:150 UG/M3

Ingred Name:LEAD SULFATE (ANGLESITE)

CAS:7446-14-2

RTECS #:OG4375000

< Wt:1.

Other REC Limits:100 UG/M3 NIOSH

OSHA PEL:50 UG/M3

ACGIH TLV:150 UG/M3

EPA Rpt Qty:100 LBS

DOT Rpt Qty:100 LBS

Ingred Name:SULFURIC ACID (35%) (BATTERY ELECTROLYTE, ACID)

CAS:7664-93-9

RTECS #:WS5600000

= Wt:34.

Other REC Limits:1 MG/M3 NIOSH REL

OSHA PEL:1 MG/M3

ACGIH TLV:3 MG/M3(MAX /8 HR)

ACGIH STEL:1 MG/M3

EPA Rpt Qty:1000 LBS

DOT Rpt Qty

:1000 LBS

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

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:NOTE ! UNDER NORMAL CONDITIONS OF BATTERY USE, INTERNAL COMPONENTS WILL NOT PRESENT A HEALTH HAZARD. INFORMATION PROVIDED FOR EXPOSURES THAT MAY OCCUR DURING MANUFACTURING, BREAKAGE, LEAKAGE. INHALATION: ACID MIST GENERATED DURING BATTERY FORMATION MAY CAUSE

RESPIRATORY IRRITATION. SPILLAGE

OF ACID FROM BATTERIES IN CONFINED AREAS MAY LEAD TO EXPOSURE OF SULFURIC ACID MIST. SKIN: ELECTROLYTE MAY CAUSE IRRITATIVE CONTACT DERMATITIS. EYES: ELECTROLYTE WILL IRRITATE THE EYES UPON CONTACT. INGESTION: HANDS CONTAMINATED BY CONTACT WITH INTERNAL COMPONENTS CAN CAUSE INGESTION OF LEAD AND LEAD COMPOUNDS.

Explanation of Carcinogenicity:NTP AND IARC HAVE CLASSIFIED LEAD AS AN A3 CARCINOGEN (ANIMAL CARCINOGEN). WHILE THE AGENT IS CA

RCINOGENIC

IN EXPERIMENTAL ANIMALS AT RELATIVELY HIGH DOSES, AGENT IS UNLIKELY TO CAUSE CANCER IN HUMANS EXCEPT UNDER UNCOMMONLY HIGH LEVELS OF EXPOSURE. FOR FURTHER INFORMATION, SEE ACGIH'S PAMPHLET, 1996 THRESHOLD LIMIT VALUES AND (CONTD. SEE "TOXICOLOGICAL")

Effects of Overexposure:ACUTE EFFECTS OF OVEREXPOSURE TO LEAD COMPOUNDS ARE GI UPSET, LOSS OF APPETITE, DIARRHEA, CONSTIPATION WITH CRAMPING, DIFFICULTY SLEEPING, FATIGUE. EXPOSURE AND/OR CONTACT WITH ELECTROL

YTE MAY LEAD TO ACUTE IRRITATION OF SKIN, CORNEAL DAMAGE, IRRITATION OF MUCOUS MEMBRANES OF EYES AND UPPER RESPIRATORY SYSTEM, INCLUDING LUNGS. CHRONIC: LEAD AND ITS COMPOUNDS MAY CAUSE ANEMIA, DAMAGE TO KIDNEYS AND NERVOUS SYSTEM. LEAD MAY ALSO CAUSE REPRODUCTIVE SYSTEM DAMAGE AND CAN AFFECT DEVELOPING FETUSES IN PREGNANT WOMEN. ELECTROLYTE MAY LEAD TO SCARRING OF CORNEA, CHRONIC BRONCHITIS AS WELL AS EROSION OF TOOTH ENAMEL IN REPEATED EXPOSURES.

Medical Cond Ag

gravated by Exposure:INORGANIC LEAD AND ITS COMPOUNDS CAN AGGRAVATE CHRONIC FORMS OF KIDNEY, LIVER, NEUROLOGICAL DISEASE. CONTACT OF ELECTROLYTE WITH SKIN MAY AGGRAVATE SKIN DISEASES SUCH AS ECZEMA AND CONTACT DERMATITIS.

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First Aid Measures
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First Aid:INHALATION: MOVE FROM EXPOSURE. CONSULT PHYSICIAN IF ACUTE EFFECTS DEVELOP. SKIN: WASH WITH SOAP AND WATER. IF ACID IS SPLASHED ON CLOTHING AND SHOES, REMOVE AND DISCARD. AC ID CANNOT BE REMOVED FROM LEATHER. EYES: RINSE WITH COOL RUNNING WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION. INGESTION: LEAD/LEAD COMPOUNDS: CONSULT A PHYSICIAN. ELECTROLYTE: DO NOT INDUCE VOMITING. REFER TO A PHY SICIAN.

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Fire Fighting Measures
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Flash Point:=-259.C, -434.2F
HYDROGEN
Autoignition Temp:=-580.C, 1076.F
Autoignition Temp Text:H2
Lower Limits:4.1, H2
Upper Limits:74.2, H2
Extinguishing Media:DRY CHEMICAL, FOAM

, OR CO2.

Fire Fighting Procedures:USE POSITIVE PRESSURE SELF CONTAINED BREATHING APPARATUS.

Unusual Fire/Explosion Hazard:HYDROGEN AND OXYGEN GASES ARE PRODUCED IN CELLS DURING NORMAL OPERATION, HYDROGEN IS FLAMMABLE AND OXYGEN SUPPORTS COMBUSTION. THESE GASES ENTER THE AIR THROUGH THE VENT CAPS. TO AVOID THE CHANCE OF A FIRE OR EXPLOSION, KEEP SPARKS AND OTHER SOURCES OF IGNITION AWAY FROM THE BATTERY.

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

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Spill Release Procedures:REMOVE COMBUSTIBLE MATERIALS AND IGNITION SOURCES. CONTAIN SPILL BY DIKING WITH SODIUM CARBONATE OR CALCIUM OXIDE. COVER SPILL WITH EITHER CHEMICAL. MAKE CERTAIN MIX IS NEUTRAL, COLLECT RESIDUE IN DRUM OR OTHER SUITABLE CONTAINER. DISPOSE AS HAZARDOUS WASTE. WEAR ACID-RESISTANT BOOTS, CHEMICAL FACE SHIELD, CHEMICAL SPLASH GOGGLES, ACID-RESISTANT GLOVES. DO NOT RELEASE UNNEUTRALIZED ACID.

Neutralizing Agent:SODA ASH (SODIUM CARBONATE) OR QUICKLIME(CALCIUM OXIDE). COVER SPILL WITH EITHER CHEMICAL. MIX WELL.

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

Handling and Storage Precautions:STORE LEAD ACID BATTERIES WITH ADEQUATE VENTILATION. WEAR RECOMMENDED EYE PROTECTION. IF CLOTHING BECOMES SATURATED WITH ACID, REMOVE AND WASH AFFECTED AREA WITH WATER FOR 15 MINUTES. DISCARDED SATURATED CLOTHING. MAKE CERTAIN VENT CAPS ARE ON TIGHTLY. PLACE A MINIMUM OF(CONTD. SEE "OTHER INFO")

Other Precautions:

AN EYEWASH FOUNTAIN AND SAFETY SHOWER SHOULD BE LOCATED IN OR NEAR THE PRODUCTION OR STORAGE AREAS FOR LEAD/LEAD ACID BATTERIES. SUCH STORAGE AREAS SHOULD BE EQUIPPED WITH A CONTAINMENT FACILITY WHICH CAPTURES ACID SPILLS SO THAT THEY MAY BE NEUTRALIZED, COLLECTED, AND DISPOSED PROPERLY.

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

Respiratory Protection:NONE REQUIRED UNDER NORMAL HANDLING CONDITIONS. DURING BATTERY FORMATION (HIGH-RATE CHARGE CO

NDITIONS), ACID MIST

CAN BE GENERATED, WHICH MAY CAUSE RESPIRATORY IRRITATION. IF IRRITATION OCCURS, WEAR A RESPIRATOR SUITABLE FOR PROTECTION AGAINST ACID MIST

Ventilation:ROOM VENTILATION IS REQUIRED FOR BATTERIES UTILIZED FOR STANDBY POWER GENERATION. NEVER RECHARGE BATTERIES IN AN UNVENTILATED, ENCLOSED SPACE.

Protective Gloves:VINYL-COATED, PVC, GAUNTLET-TYPE GLOVES WITH ROUGH FINISH.

Eye Protection:CHEMICAL SPLASH GOGGLES PREFERRED. (CONTD. SEE "SUPPL. SAFETY")

Other Protective Equipment:SAFETY SHOES WORN WITH RUBBER OR NEOPRENE BOOTS OR STEEL-TOED RUBBER OR NEOPRENE BOOTS WORN OVERSOCKS. PLACE PANTS LEGS OVER BOOTS TO KEEP ACID OUT OF BOOTS. ALL FOOTWEAR MUST(CONTD. SEE "OTHER INFO")

Work Hygienic Practices:WASH HANDS THOROUGHLY BEFORE EATING, DRINKING, OR SMOKING AFTER HANDLING BATTERIES. (SEE "OTHER INFORMATION")

Supplemental Safety and Health

SYNONYMS/Common Name: JOHNSON CONTROLS: SLI BATTERY. VENDORS PART NUMBER/TRADE NAME: 3

IP-PHD. (CONTD. FROM "EYE PROTECTION") ALSO

ACCEPTABLE ARE "VISOR-GOGS" OR A CHEMICAL FACE SHIELD WORN OVER SAFETY GLASSES WITH SOLID SIDE SHIELDS.

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

HCC:C1

Boiling Pt:=1755.C, 3191.F

B.P. Text:LEAD

Melt/Freeze Pt:=327.4C, 621.3F

M.P/F.P Text:LEAD

Vapor Pres:11.7 MMHG@20C ELECTROLYTE

Vapor Density:3.4, ACID

Spec Gravity:1.210-1.300 (ACID) (H2O=1

Evaporation Rate & Reference:NOT DETERMINED

Solubility in Water:ELECTR

OLYTE: 100%

Appearance and Odor:ACID: CLEAR TO CLOUDY LIQUID; SLIGHT ACIDIC ODOR.

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

Stability Indicator/Materials to Avoid:YES

LEAD/LEAD COMPOUNDS: POTASSIUM, CARBIDES, SULFIDES, PEROXIDES, PHOSPHORUS, SULFUR. BATTERY ACID: COMBUSTIBLE MATERIALS, STRONG REDUCING AGENTS, MOST METALS, CARBIDES, ORGANIC MATERIALS, CHLORATES, NITRATES, PICRATES, AND FU

Stability Condition to Avoid:SPARKS AND OTHER SOURCES OF IGNITION MAY

IGNITE HYDROGEN GAS.

Hazardous Decomposition Products:LEAD/LEAD COMPOUNDS: OXIDES OF LEAD AND SULFUR. BATTERY ELECTROLYTE (ACID): HYDROGEN, SULFUR DIOXIDE, SULFUR TRIOXIDE.

Conditions to Avoid Polymerization:WILL NOT OCCUR. AVOID HIGH TEMP. ACID WILL REACT WITH WATER TO PRODUCE HEAT. CAN REACT WITH OXIDIZING OR REDUCING AGENT.

===== Toxicological Information =====

Toxicological Information:(CONTD. FROM "CARCINOGENIC EXPLANATION")BIOLOGICAL EXPOSURE INDICES. NTP AND IARC HAVE CLASSIFIED "STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID" AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS CARCINOGENIC TO HUMANS. THE ACGIH HAS CLASSIFIED "STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID" AS AN A2 CARCINOGEN (SUSPECTED HUMAN CARCINOGEN). THESE CLASSIFICATIONS DO NOT APPLY TO LIQUID FORMS OF SULFURIC ACID CONTAINED IN A BATTERY. INORGANIC ACID MIST (SULFURIC ACID MIST) IS NOT GENERATED UNDER NORMAL USE OF THIS PRODUCT. MISUSE OF THE PRODUCT, SUCH AS OVERCHARGING, MAY RESULT IN THE GENERATION OF SULFURIC ACID MIST.

===== Disposal Considerations =====

Waste Disposal Methods:ELECTROLYTE: DISPOSE OF AS A HAZARDOUS WASTE. DO NOT FLUSH LEAD-CONTAMINATED ACID INTO SEWER. BATTERIES: SEND TO LEAD SMELTER FOR RECLAMATION FOLLOWING APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS .

===== MSDS Transport Information =====

Transport Information:DOT, IATA, AND IMO DESCRIPTION: BATTERY, WET, FILLED WITH ACID, UN2794, CLASS 8.

===== Regulatory Information =====

SARA Title III Information:NOTE: THE CONTENTS OF THIS PRODUCT ARE TOXIC CHEMICALS THAT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 302 AND 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 (40CFR 3 55 AND 372).

===== Other Information =====

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