## USA CLASSIFICATION:

#### OSHA Classification:

Physical: Explosive. Oxidizer.

Health: Irritant.

Target Organ: Central nervous system. Blood/hematopoietic system.

SARA Regulations Sections 313 and 40 CFR 372: This product contains the following toxic chemical(s) subject to reporting requirements: 93% Ammonium Nitrate (6484-52-2)

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances.

Other Regulations/Legislation which apply to this product: Massachusetts Right-to-Know, Pennsylvania Right-to-Know, New Jersey Right-to-Know.

# SECTION 16 - OTHER INFORMATION

MATS Index: 27654

### REFERENCES:

RTECS-Registry of Toxic Effects of Chemical Substances, On-line search, Canadian Centre for Occupational Health and Safety RTECS database, National Institute for Occupational Safety and Health, U.S. Dept. of Health & Human Services, Cincinnati, 1994.

Supplier's Material Safety Data Sheets.

"CHEMINFO", through "CCINFOdisc", Canadian Centre for Occupational Bealth and Safety, Hamilton, Ontario, Canada.

Sax, N. Irving, Dangerous Properties of Industrial Materials, 7th ed., Van Nostrand Reinhold Co., New York, 1989.

Prepared by: Safety, Realth and Environment (416) 229-8252.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No varranty of any kind is given or implied and ICI Explosives Canada Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

\* MSDS \*

\* Canadian Centre for Occupational Health and Safety \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* Issue : 95-4 (November, 1995) \*

\*\*\* IDENTIFICATION \*\*\*

MSDS RECORD NUMBER : 970598

PRODUCT NAME (S) : LEAD NITRATE

PRODUCT IDENTIFICATION : J.T. BAKER MSDS NUMBER: L3130

CAS NO.: 10099-74-8

PRODUCT CODES: 2328 5162 5044 5048 2322

DATE OF MSDS : 1994-01-04

\*\*\* MANUFACTURER INFORMATION \*\*\*

MANUFACTURER : J T BAKER INC

ADDRESS : 222 RED SCHOOL LANE

PHILLIPSBURG NEW JERSEY

U.S.A. 08865

EMERGENCY TELEPHONE NO.: 908-859-2151 (24-HOURS)

800-424-9300 (CHEMTREC)

800-424-8802 (NATIONAL RESPONSE CENTER)

\*\*\* MATERIAL SAFETY DATA \*\*\*

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

L3130 M08 LEAD NITRATE PAGE: 1 EFFECTIVE: 01/04/94 ISSUED: 07/08/95

MALLINCKRODT BAKER, INC., 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

SECTION I - PRODUCT IDENTIFICATION

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: LEAD NITRATE

COMMON SYNONYMS: LEAD (II) NITRATE; LEAD DINITRATE; NITRIC ACID, LEAD (2+)

SALT

CHEMICAL FAMILY: LEAD COMPOUNDS

FORMULA: PB (NO3) 2
FORMULA WT.: 331.20
CAS NO.: 10099-74-8
NIOSH/RTECS NO.: OG2100000

PRODUCT USE: LABORATORY REAGENT

PRODUCT CODES: 2328,5162,5044,5048,2322

#### PRECAUTIONARY LABELING

BAKER SAF-T-DATA\* SYSTEM

 3 SEVERE (LIFE) HEALTH

\_\_\_\_\_\_\_\_

FLAMMABILITY - 0 NONE
REACTIVITY - 3 SEVERE (OXIDIZER)

- 1 SLIGHT CONTACT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

### U.S. PRECAUTIONARY LABELING

### POISON DANGER

CAUSES IRRITATION. MAY BE FATAL IF SWALLOWED. EXCEPTIONAL HEALTH HAZARD. BEFORE USING, READ MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS MATERIAL. STRONG OXIDIZER. CONTACT WITH COMBUSTIBLE MATERIALS, FLAMMABLE MATERIALS, OR POWDERED METALS CAN CAUSE FIRE OR EXPLOSION. KEEP FROM CONTACT WITH CLOTHING AND OTHER COMBUSTIBLE MATERIALS. DO NOT STORE NEAR COMBUSTIBLE MATERIALS. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, SOAK WITH WATER. IN CASE OF SPILL, SWEEP UP AND REMOVE. FLUSH SPILL AREA WITH WATER

### CONTINUED ON PAGE: 2

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

L3130 M08 LEAD NITRATE

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PRECAUTIONARY LABELING (CONTINUED) \_\_\_\_\_\_\_\_\_\_

### INTERNATIONAL LABELING

HARMFUL BY INHALATION AND IF SWALLOWED. DANGER OF CUMULATIVE EFFECTS. KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS. WHEN USING DO NOT EAT, DRINK OR SMOKE.

SAF-T-DATA\* STORAGE COLOR CODE: YELLOW (REACTIVE)

SECTION II - COMPONENTS

COMPONENT

CAS NO. WEIGHT % OSHA/PEL ACGIH/TLV

LEAD NITRATE 10099-74-8 99-100 0.05 MG/M3 0.15 MG/M3

TLV AND PEL ARE FOR LEAD, INORGANIC DUSTS AND FUMES, AS PB.

\_\_\_\_\_\_

SECTION III - PHYSICAL DATA

BOILING POINT: N/A VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 470 C (878 F) DECOMPOSES VAPOR DENSITY (AIR=1): 11.0

(AT 760 MM HG)

SPECIFIC GRAVITY: 4.53 EVAPORATION RATE: N/A

(H20=1)

SOLUBILITY(H20): APPRECIABLE (>10%) % VOLATILES BY VOLUME: 0

(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: COLORLESS OR WHITE CRYSTALS. ODORLESS.

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J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

MATERIAL SAFETY DATA SHEET

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CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

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CROWLON IN SIDE AND PADIOCION HAVADD DATA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

NFPA 704M RATING: 0-0-0 OXY

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINOUISHING MEDIA

USE WATER SPRAY.

# SPECIAL FIRE-FIGHTING PROCEDURES



FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS

STRONG OXIDIZER. CONTACT WITH COMBUSTIBLE MATERIALS, FLAMMABLE MATERIALS, OR POWDERED METALS CAN CAUSE FIRE OR EXPLOSION. CAN REACT VIOLENTLY WITH SHOCK, FRICTION OR HEAT.

TOXIC GASES PRODUCED

OXIDES OF NITROGEN, LEAD FUMES

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

SECTION V - HEALTH HAZARD DATA

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 0.15 MG/M3

TLV IS FOR LEAD, INORGANIC DUSTS AND FUMES, AS PB.

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 0.05 MG/M3

PEL IS FOR LEAD, INORGANIC DUSTS AND FUMES, AS PB.

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J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

M A T E R I A L S A F E T Y D A T A S H E E T

24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

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LEAD NITRATE

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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### TOXICITY OF COMPONENTS

INTRAPERITONEAL RAT LDLO LEAD NITRATE

270 MG/KG

INTRAPERITONEAL MOUSE LD50 FOR LEAD NITRATE

74 MG/KG

CARCINOGENICITY: NTP: NO

IARC: YES Z LIST: NO OSHA REG: YES

CARCINOGENICITY

LEAD IS LISTED AS A IARC (GROUP 2B) POSSIBLE CARCINGGEN TO HUMANS.

REPRODUCTIVE EFFECTS

LEAD MAY HAVE TERATOGENIC EFFECTS ON PREBORN OFFSPRING AND ADVERSE AFFECTS ON HUMAN REPRODUCTIVE CAPABILITIES.

#### EFFECTS OF OVEREXPOSURE

INHALATION:

TIGHTNESS AND PAIN IN CHEST, COUGHING, DIFFICULT

BREATHING

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION:

HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL

IRRITATION, AND MAY BE FATAL.

CHRONIC EFFECTS: ANEMIA, KIDNEY DAMAGE, BLURRED VISION, LEAD BUILD-UP IN

THE CENTRAL NERVOUS SYSTEM

TARGET ORGANS

GI TRACT, CENTRAL NERVOUS SYSTEM, KIDNEYS, BLOOD, GINGIVAL TISSUE

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

### CONTINUED ON PAGE: 5

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802 L3130 M08 EFFECTIVE: 01/04/94 PAGE: 5 ISSUED: 07/08/95

SECTION V - HEALTH HAZARD DATA (CONTINUED)

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### EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE LARGE

AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE

ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE

OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF

WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS LEAD NITRATE (RO = 100 LBS)

SARA 313 TOXIC CHEMICALS: YES CONTAINS LEAD

GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 7/1/91

TSCA INVENTORY: YES

STABILITY: STABLE

STATE LISTS: FOR PRODUCTS SOLD IN THE STATE OF CALIFORNIA, THE STATE REQUIRES THAT WE PROVIDE TO USERS AND THEIR EMPLOYEES THE FOLLOWING MESSAGE: WARNING: THIS PRODUCT IS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SECTION VI - REACTIVITY DATA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: SHOCK, FRICTION, HEAT

INCOMPATIBLES: COMBUSTIBLE MATERIALS, ORGANIC MATERIALS, STRONG

REDUCING AGENTS

DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN, LEAD FUMES

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J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865
MATERIAL SAFETY DATA SHEET
24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

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SECTION VII - SPILL & DISPOSAL PROCEDURES

\_\_\_\_\_\_

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE

WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC.) AWAY FROM SPILLED MATERIAL. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: D001 (IGNITABLE WASTE)

\_\_\_\_\_\_ SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION:

USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV

REQUIREMENTS.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION EXCEEDS TLV. A HIGH-EFFICIENCY PARTICULATE RESPIRATOR IS RECOMMENDED. IF CONCENTRATION EXCEEDS CAPACITY OF RESPIRATOR, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, BUTYL RUBBERGLOVES ARE

RECOMMENDED.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

\_\_\_\_\_\_

SAF-T-DATA\* STORAGE COLOR CODE: YELLOW (REACTIVE)

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE SEPARATELY AND AWAY FROM FLAMMABLE AND COMBUSTIBLE MATERIALS. ISOLATE FROM INCOMPATIBLE MATERIALS.

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J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION 

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: LEAD NITRATE

HAZARD CLASS: 5.1, 6.1 UN/NA: UN1469 REPORTABLE QUANTITY: 10 LBS. PACKAGING GROUP: II

LABELS: 5.1 OXIDIZER, POISON

REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: LEAD NITRATE

I.M.O. PAGE: 5154

HAZARD CLASS: 5.1, 6.1
UN: UN1469 MARINE POLLUTANTS: YES

PACKAGING GROUP: II

LABELS: 5.1 OXIDIZING AGENT, TOXIC

REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: LEAD NITRATE

HAZARD CLASS:

5.1, 6.1

UN: UN1469

PACKAGING GROUP: II

LABELS: OXIDIZER & POISON REGULATORY REFERENCES: 49CFR PART 175; ICAO === WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE

> COMPANY ASSUMES LEGAL RESPONSIBILITY. === THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49

U.S. CUSTOMS HARMONIZATION NUMBER: 28342900005

CFR 173.1(B).

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J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET

# 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

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NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

\_\_\_\_\_\_

-N/A = NOT APPLICABLE, OR NOT AVAILABLE;

N/E = NOT ESTABLISHED . -

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS

FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED

GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

MSDS

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\* Canadian Centre for Occupational Health and Safety \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* Issue : 95-4 (November, 1995) \*

\*\*\* IDENTIFICATION \*\*\*

MSDS RECORD NUMBER : 964895

PRODUCT NAME (S) : FERRIC SULPHATE

PRODUCT IDENTIFICATION : PRODUCT CODE NUMBER(S): 3710-1

MSDS: 3710-1

CAS No.: 10028-22-5

DATE OF MSDS : 1995-04-24

\*\*\* MANUFACTURER INFORMATION \*\*\*

MANUFACTURER : Caledon Laboratories Ltd

ADDRESS : 40 Armstrong Avenue Georgetown Ontario Canada L7G 4R9

Telephone: 905-877-0101

Fax: 905-877-6666

EMERGENCY TELEPHONE NO.: 613-996-6666 (CANUTEC)

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Note from Caledon: Caledon Laboratories Ltd believes the information contained herein is reliable and accurate. Caledon makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such information is solely for your consideration, investigation, and verification.

\*\*\* MATERIAL SAFETY DATA \*\*\*

MATERIAL SAFETY DATA SHEET FERRIC SULPHATE

PRODUCT CODE NUMBER(S): 3710-1

\_\_\_\_\_\_

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: Ferric sulphate hydrated

Chemical Family: Metal salt Chemical Formula: Fe2(SO4)3.XH2O Product Use: Laboratory reagent

HAZARDOUS INGREDIENTS OF MATERIALS

Ingredients % CAS No.

Ferric sulphate 100 10028-22-5

TLV Units 1 mg/m3 (as Fe)

### PHYSICAL DATA

Physical State: Solid

Odour and Appearance: Tan to light greenish-yellow powder, odourless

Odour Threshold (ppm): Not applicable Vapour Pressure (mm Hg): Not available Vapour Density (Air=1): Not applicable

Evaporation Rate: Not applicable

Boiling Point (degrees C): Not available

Melting Point (degrees C): 480 deg C (decomposes)

pH: Not available

Specific Gravity: 3.097

Coefficient of Water/Oil distribution: Not available

### SHIPPING DESCRIPTION

UN: Not regulated

T.D.G. Class: Not regulated Pkg. Group: Not regulated

### REACTIVITY DATA

Chemical Stability: Normally stable, hygroscopic Incompatibility with other substances: None known

Reactivity: Normally stable

Hazardous Decomposition Products: Oxides of sulphur and iron

# FIRE AND EXPLOSION DATA

Flammability: Non flammable

Extinguishing Media: Use an extinguisher appropriate to the surrounding material that is burning.

Flash Point (Method Used): None

Autoignition Temperature: Not available

Upper Flammable Limit (% by volume): Not applicable Lower Flammable Limit (% by volume): Not applicable Hazardous Combustion Products: Oxides of sulphur, iron

Sensitivity to Impact: None

Sensitivity to Static discharge: None

### TOXICOLOGICAL PROPERTIES AND HEALTH DATA

# Toxicological Data:

LD50: Not available LC50: Not available

# Effects of Acute Exposure to Product:

Inhaled: May irritate. Inhalation may cause coughing or sneezing. In contact with skin: May irritate and discolour. No information available on absorption.

In contact with eyes: May irritate.

Ingested: Practically non-toxic systemically. Large amounts may cause abdominal cramps, nausea, vomiting, diarrhea, black stool.

Effects of Chronic Exposure to Product:

Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death from iron poisoning has been recorded.

Carcinogenicity: No information available Teratogenicity: No information available

Reproductive Effects: No information available

Mutagenicity: No information available

Synergistic Products: None known

#### PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation recommended.

Respiratory Protection: Dust mask. NIOSH/MSHA approved respirator for concentrations above TLV.

Eye Protection: Chemical safety glasses

Skin Protection: Rubber or plastic gloves. Plastic apron, sleeves and boots as required to prevent contact.

Other Personal Protective Equipment: Safety shower and eye-wash fountain in work area.

Leak and Spill Procedure: Transfer carefully into container and arrange removal by disposal company. Wash site of spillage thoroughly with water and detergent.

Waste Disposal: Follow all federal, provincial and local regulations for disposal.

Handling Procedures and Equipment: Follow routine safe handling procedures.

Avoid generating dust.

Storage Requirements: Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight. Keep containers tightly closed.

# FIRST AID MEASURES

### Specific Measures:

Eyes: Wash thoroughly with running water for at least fifteen (15) minutes, holding eyelids open while flushing. Get medical advice if irritation develops.

Skin: Remove contaminated clothing. Wash skin with plenty of running water. If irritation develops seek medical attention.

Inhalation: Remove to fresh air. Give oxygen or get medical attention for any breathing difficulty.

Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink 2 to 4 glasses of water to dilute. Seek medical attention.

# REFERENCES USED

CCINFO disc

Suppliers' Material Safety Data Sheets

Sigma-Aldrich: Material Safety Data Sheets on CD-ROM, 1994

# ADDITIONAL INFORMATION

Date Issued: June 10, 1991 Revision 2: April 24, 1995

MSDS: 3710-1

WHMIS Designation: D2A
Prepared by: The Caledon Occupational Health &
Safety Committee (905) 877-0101