

Valid 05/2002 - 07/2002

Aldrich Chemical Co., Inc.
 1001 West St. Paul
 Milwaukee, WI 53233 USA
 Tel: 414-273-3850

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

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: 205222
 NAME: SODIUM CYANIDE, 95+%, A.C.S. REAGENT

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 143-33-9
 MF: CNNA
 EC NO: 205-599-4

SYNONYMS

CIANURO DI SODIO (ITALIAN) * CYANIDE OF SODIUM * CYANOBRIK *
 CYANOGRAN * CYANURE DE SODIUM (FRENCH) * CYMAG * HYDROCYANIC ACID,
 SODIUM SALT * KYANID SODNY (CZECH) * PRUSSATE OF SODA * RCRA WASTE
 NUMBER P106 * SODIUM CYANIDE (ACGIH) *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)
 VERY TOXIC (EU)
 VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
 CAUSES BURNS.
 CONTACT WITH ACIDS LIBERATES VERY TOXIC GAS.
 READILY ABSORBED THROUGH SKIN.
 TARGET ORGAN(S):
 CENTRAL NERVOUS SYSTEM
 CARDIOVASCULAR SYSTEM
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.
 DO NOT BREATHE DUST.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
 AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
 CLOTHING AND SHOES.
 IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
 CALL A PHYSICIAN IMMEDIATELY.
 IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
 RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
 ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS
 WITH FINGERS.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

APPROPRIATE FOAM.
 DO NOT USE CARBON DIOXIDE EXTINGUISHER ON THIS MATERIAL.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
 PREVENT CONTACT WITH SKIN AND EYES.
 USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

EVACUATE AREA.

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
 RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

AVOID RAISING DUST.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

FACESHIELD (8-INCH MINIMUM).

SAFETY SHOWER AND EYE BATH.

USE ONLY IN A CHEMICAL FUME HOOD.

DO NOT BREATHE DUST.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

WASH THOROUGHLY AFTER HANDLING.

DISCARD CONTAMINATED CLOTHING AND SHOES.

KEEP TIGHTLY CLOSED.

STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR

WHITE POWDER WITH CHUNKS

PHYSICAL PROPERTIES

MELTING POINT: 563.7 C

VAPOR PRESSURE: 1MM 817 C

SOLUBILITY:

WATER -Z26130

VAPOR DENSITY: 1.7

PH: 11.0 - 12.0

SECTION 10. - - - - - -STABILITY AND REACTIVITY - - - - -

STABILITY

STABLE.

CONDITIONS TO AVOID

MAY DECOMPOSE ON EXPOSURE TO MOIST AIR OR WATER.

INCOMPATIBILITIES

AVOID CONTACT WITH ACID.

STRONG OXIDIZING AGENTS

CARBON DIOXIDE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

HYDROGEN CYANIDE

CARBON MONOXIDE, CARBON DIOXIDE

NITROGEN OXIDES

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE

LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.

SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.

LUNG IRRITATION

CYANOSIS

CNS DEPRESSION

CHRONIC EFFECTS

TARGET ORGAN(S):

CENTRAL NERVOUS SYSTEM

BLOOD

LUNGS

CARDIOVASCULAR SYSTEM

THYROID

RTECS #: VZ7525000

SODIUM CYANIDE

TOXICITY DATA

ORL-WMN LDLO:40 MG/KG

FSINDR 38,173,1988

ORL-CHD LDLO:100 MG/KG

FSINDR 38,173,1988

| | |
|--------------------------|-----------------------|
| ORL-HMN LDLO:2800 UG/KG | NTIS** OTS0528336 |
| ORL-MAN LDLO:6557 UG/KG | APTOA6 1,18,1945 |
| ORL-HMN LDLO:2857 UG/KG | 34ZIAG -,191,1969 |
| UNR-MAN LDLO:2206 UG/KG | 85DCAI 2,73,1970 |
| ORL-RAT LD50:6440 UG/KG | 28ZPAK -,13,1972 |
| IPR-RAT LD50:4300 UG/KG | GISAAA 43(12),90,1978 |
| IPR-MUS LD50:4900 UG/KG | NTIS** OTS0528336 |
| SCU-MUS LD50:3600 UG/KG | AJPHAP 179,60,1954 |
| UNR-MUS LD50:10 MG/KG | IGAYAY 112,861,1980 |
| SCU-DOG LD50:5360 UG/KG | JAMAAP 149,113,1952 |
| SKN-RBT LD50:10400 UG/KG | NTIS** OTS0536153 |
| IMS-RBT LD50:1666 UG/KG | JACTDZ 1(3),120,1982 |
| OCU-RBT LD50:5048 UG/KG | JACTDZ 1(3),120,1982 |
| SCU-GPG LD50:5800 UG/KG | MELAAD 46,221,1955 |
| ORL-CKN LD50:21 MG/KG | JWIDAW 22,538,1986 |
| ORL-QAL LD50:8500 UG/KG | JWIDAW 22,538,1986 |
| ORL-DCK LD50:2500 UG/KG | NTIS** OTS0530251 |
| ORL-DOM LD50:4 MG/KG | TXAPA9 45,359,1978 |
| ORL-MAM LD50:8 MG/KG | BECTA6 23,211,1979 |
| ORL-BWD LD50:4 MG/KG | JWIDAW 22,538,1986 |

TARGET ORGAN DATA

PERIPHERAL NERVE AND SENSATION (SPASTIC PARALYSIS WITH/WITHOUT SENSORY CH
 SENSE ORGANS AND SPECIAL SENSES (OTHER EYE EFFECTS)
 BEHAVIORAL (SOMNOLENCE)
 BEHAVIORAL (HALLUCINATIONS, DISTORTED PERCEPTIONS)
 BEHAVIORAL (TREMOR)
 BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
 BEHAVIORAL (FLUID INTAKE)
 BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
 BEHAVIORAL (MUSCLE WEAKNESS)
 BEHAVIORAL (ATAXIA)
 LUNGS, THORAX OR RESPIRATION (DYSPPNAE)
 LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
 GASTROINTESTINAL (CHANGES IN STRUCTURE OR FUNCTION OF SALIVARY GLANDS)
 GASTROINTESTINAL (GASTRITIS)
 GASTROINTESTINAL (OTHER CHANGES)

ADDITIONAL INFORMATION

ORAL LETHAL DOSE IN HUMANS IS 2.8MG/KG.
 ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
 (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
 COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
 DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
 CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
 THIS MATERIAL.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
 CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

VERY TOXIC
 R 26/27/28
 VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
 R 34
 CAUSES BURNS.
 R 32
 CONTACT WITH ACIDS LIBERATES VERY TOXIC GAS.
 S 45
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
 S 26
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 S 36/37/39
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.

S 22

DO NOT BREATHE DUST.
 REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

FEREAC 54,7740,1989

OSHA PEL (GEN INDU):8H TWA 5 MG(CN)/M3

CFRGBR 29,1910.1000,1994

OSHA PEL (CONSTRUC):8H TWA 5 MG(CN)/M3

CFRGBR 29,1926.55,1994

OSHA PEL (SHIPYARD):8H TWA 5 MG(CN)/M3

CFRGBR 29,1915.1000,1993

OSHA PEL (FED CONT):8H TWA 5 MG(CN)/M3

CFRGBR 41,50-204.50,1994

OEL-AUSTRALIA: TWA 5 MG/M3, SKIN, JAN1993

OEL-AUSTRIA: MAK 5 MG(CN)/M3, SKIN, JAN1999

OEL-DENMARK: TWA 5 MG/M3, SKIN, JAN1999

OEL-FRANCE: VME 5 MG(CN)/M3, SKIN, JAN1999

OEL-GERMANY: MAK 5 MG(CN)/M3, SKIN, JAN1999

OEL-POLAND: TWA 0.3 MG(CN)/M3, CEILING 10 MG(CN)/M3, JAN1999

OEL-SWITZERLAND: MAK-W 5 MG/M3, KZG-W 10 MG/M3, SKIN, JAN1999

OEL-UNITED KINGDOM: TWA 5 MG(CN)/M3, SKIN, SEP2000

OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV

NIOSH REL TO CYANIDE-AIR:CL 4.7 PPM(CN)/10M

NIOSH* DHHS #92-100,1992

NOHS 1974: HZD 68950; NIS 68; TNF 3285; NOS 41; TNE 27329

NOES 1983: HZD 68950; NIS 74; TNF 4423; NOS 63; TNE 66484; TFE 15327

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

EPA TSCA SECTION 8(E) RISK NOTIFICATION, 8EHQ-0693-9229

ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

NTP TOXICITY STUDIES, RPT# TOX-37, OCTOBER 2000

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - OTHER INFORMATION- - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
 BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH,
 FLUKA 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.
 COPYRIGHT 2001 SIGMA-ALDRICH CO.

LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY