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MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION
CAS/REG #: 61616
NAME: NICKEL CHLORIDE CELL CULTURE TESTED
SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS
CAS #: 7791-20-0
NF (CLIM):

SECTION 3. HAZARDS IDENTIFICATION
LABEL PRECAUTIONARY STATEMENTS

TOXIC
MAY CAUSE CANCER.
TOXIC BY INHALATION. IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
TARGET ORGAN(S):
LUNGS

DO NOT BREATHE DUST.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
KEEP CONTAINER TIGHTLY CLOSED IN A COOL WELL-VENTILATED PLACE.

SECTION 4. FIRST-AID MEASURES
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. FIRE FIGHTING MEASURES
EXTINGUISHING MEDIA
NONWATERMISTABLE.
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH DUST AND EYES.
UNUSUAL FIRE AND EXPLOSION 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.
WEAR DISPOSABLE COVERALLS AND DISCARD THEM AFTER USE.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID BREATHING 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 RESPIRATOR-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, OR CLOTHING.
AVOID PNEUMED OR REPARED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.

TOXIC
CARCINOGEN
IRRITANT
SENSITIZER
KEEP TIGHTLY CLOSED.
HYDROSCOPIC
STORE IN A COOL DRY PLACE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE AND ODOR
GREEN CRYSTALS

SECTION 10. STABILITY AND REACTIVITY
INCOMPATIBILITIES
PEROXIDES
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
HYDROGEN CHLORIDE GAS
NICKEL/NICKEL OXIDES

SECTION 11. TOXICOLOGICAL INFORMATION
ACUTE EFFECTS
SYMPTOM: IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
CAUSES DERMATITIS.
MAY CAUSE ALLERGIC RESPIRATORY REACTION.
EXPOSURE CAN CAUSE:
GASTROINTESTINAL DISTURBANCES

CHRONIC EFFECTS
CARCINOGEN
TARGET ORGAN(S):
LUNGS
STUDY #: Q648000
NICKEL(II) CHLORIDE, HEXAHYDRATE (1/2/6)

TOXICITY DATA
OEL-MAE 1000:100 MG/M3
IPR-MSL 100:140 MG/M3
IVN-DOG 100:140 MG/M3
STUDY 21,102,1969
EPFAR 244,17,1962
EQSSN 1,1,1975

TARGET ORGAN DATA
SEVERE CHANGES AND SPECIAL SENSES (OTHER OLFACTORY EFFECTS)
BEHAVIORAL (SOMOLENCE)
GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
EFFECTS ON MEMBRANES (VIABILITY INDEX)
ONLY SELECTED RESULTS OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (STUDY) DATA IS PRESENTED HERE. SEE ACTUAL REPORT FOR COMPLETE INFORMATION.

SECTION 12. ECOLOGICAL INFORMATION
DATA NOT YET AVAILABLE.
SECTION 13. DISPOSAL CONSIDERATIONS
THE MATERIAL SHOULD BE DISSOLVED IN 1) WATER; 2) ACID SOLUTION OR 3) OXIDIZED TO A WATER-SOLUBLE STATE. PRECIPITATE THE MATERIAL AS THE SULFIDE, ADJUSTING THE PH OF THE SOLUTION TO 7 TO COMPLETE PRECIPITATION. FILTER THE INSOLUBLES AND DISPOSE OF THEM IN A HAZARDOUS-WASTE SITE. DESTROY ANY REMAINING SULFIDE WITH SODIUM HYPOCHLORITE. NEUTRALIZE THE SOLUTION BEFORE FLUSHING DOWN THE DRAIN.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. TRANSPORT INFORMATION
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. REGULATORY INFORMATION
EUROPEAN INFORMATION
CAUTION: SUBSTANCE NOT YET FULLY TESTED.

TOXIC
S 45
MAY CAUSE CANCER.
R 23/24/25
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
S 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 42/43
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
S 22
DO NOT BREATHE DUST.
S 45
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
S 3/7/9
KEEP CONTAINER TIGHTLY CLOSED IN A COOL WELL-VENTILATED PLACE.
REVIEWS, STANDARDS, AND REGULATIONS

OEL-MAE
ACGIH TLV-TWA 0.1 MG(MI)/M3
IARC CANCER REVISION (ANIMAL LIMITED EVIDENCE) IARC049,257,1990
MSHA STANDARD-AIR-TWA 1 MG(MI)/M3
STUDY# 1,178,1971
OSHA PEL (GEN INEQ) (8H TWA 1 MG(MI)/M3)
CFR29,1910,1000,1994
OSHA PEL (CONTINUED) (8H TWA 1 MG(MI)/M3)
CFR29,1926,55,1994
OSHA PEL (SHEPPARD) (8H TWA 1 MG(MI)/M3)
CFR29,1915,1000,1993
OSHA PEL (FED CONT) (8H TWA 1 MG(MI)/M3)
CFR29,150-204.50,1994
OEL-ASIA REPUBLIC OF KOREA TWA 0.1 MG(MI)/M3, JANI1993
OEL-AUSTRIA TWA 1 MG(MI)/M3, JANI1993
OEL-BELGIUM TWA 1 MG(MI)/M3 (INSOLUBLE COMPOUNDS), JANI1993
OEL-GERMANY TWA 0.1 MG(MI)/M3, JANI1999
OEL-FINLAND TWA 0.1 MG(MI)/M3, SKIN, CARCINOGEN, JANI1999
OEL-GERMANY CARCINOGEN, JANI1999
OEL-HUNGARY STEL 0.055 MG(MI)/M3, CARCINOGEN (INSOLUBLE COMPOUNDS), JANI1999
OEL-THE PHILIPPINES TWA 1 MG(MI)/M3, JANI1993
OEL-POLAND MCI(TWA) 0.25 MG(MI)/M3, JANI1999
OEL-RUSSIA STEL 0.05 MG(MI)/M3, JANI1993
OEL-SWEDEN NOV 0.1 MG(MI)/M3, CARCINOGEN, JANI1999
OEL-SWITZERLAND MAK-W 0.05 MG(MI)/M3, JANI1999
OEL-SWITZERLAND MAK-W 0.5 MG(MI)/M3, CARCINOGEN, JANI1999
OEL-THAILAND TWA 1 MG(MI)/M3, JANI1993
OEL-UNITED KINGDOM TWA 0.1 MG(MI)/M3, REF2000
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV/
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV/
NIOSH REL TO NICKEL, INSOLUBLE-AIR-IR (8H) TWA 0.015 MG(MI)/M3
NIOSH* SMS# 89-100,1992
NIOSH 1983; HSD X4130; HSD 5; TWP 364; HSD 9; THE 10406; TPE 3890
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001
U.S. INFORMATION
THIS PRODUCT IS SUBJECT TO GASA SECTION 913 REPORTING REQUIREMENTS - HIGHER COMPOUNDS.

SECTION 16. OTHER INFORMATION
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHOULD 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.
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