MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: N0507
NAME: NINHYDRIN SPRAY REAGENT

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 485-47-2
EC NO: 207-618-1
HAZARDOUS INGREDIENTS
CONTAINS ETHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 64-17-5.
CONTAINS METHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-56-1.
CONTAINS 4-METHYL-2-PENTANONE, CHEMICAL ABSTRACTS REGISTRY NUMBER 108-10-1.
SYNONYMS
2,2-DIHYDROXY-1,3-INDANDIONE * 2,2-DIHYDROXY-1H-INDENE-1,3(2H)-DIONE *
1,2,3-INDANTRIONE, 2-HYDRATE * 1,2,3-INDANTRIONE MONOHYDRATE *
NINHYDRIN * NINHYDRIN HYDRATE * TRIKETOHYDRINDENE HYDRATE *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
FLAMMABLE (USA)
HIGHLY FLAMMABLE (EU)
HARMFUL
HARMFUL BY INHALATION AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
NERVES
EYES
KEEP CONTAINER TIGHTLY CLOSED.
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
AVOID CONTACT WITH SKIN.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

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.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
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
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
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.
FLAMMABLE LIQUID.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.
SECTION 6. - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - -
SHUT OFF ALL SOURCES OFIGNITION.
EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR
DISPOSAL.
USE NONSPARKING TOOLS.
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.
MECHANICAL EXHAUST REQUIRED.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.
SECTION 9. - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
APPEARANCE AND ODOR
LIQUID.
PHYSICAL PROPERTIES
FLASHPOINT               48F
SPECIFIC GRAVITY:     0.788
8.88C
SECTION 10. - - - - - - STABILITY AND REACTIVITY - - - - - - -
STABILITY
STABLE.
INCOMPATIBILITIES
OXIDIZING AGENTS
PEROXIDES
ACIDS
ACID CHLORIDES
ACID ANHYDRIDES
ALKALI METALS
AMMONIA
MOISTURE
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.
SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - - - -
ACUTE EFFECTS
HARMFUL IF INHALED.
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES SKIN IRRITATION.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
CAN CAUSE CNS DEPRESSION.
EXPOSURE CAN CAUSE:
GASTROINTESTINAL DISTURBANCES
NAUSEA, HEADACHE AND VOMITING
NARCOTIC EFFECT
MAY CAUSE CONVULSIONS.
TARGET ORGAN(S):
EYES
KIDNEYS
LIVER
NERVES
HEART
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
RTECS #: NK5425000
1,3-INDANDIONE, 2,2-DIHYDROXY-
TOXICITY DATA
IPR-MUS LD50: 78 MG/KG CRSBAW 151,719,1957
TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
VASCULAR (REGIONAL OR GENERAL ARTERIOULAR OR VENOUS DILATION)
LUNGS, THORAX OR RESPIRATION (DYSPNAE)
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 - - - - - - - - -
BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND
SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY
FLAMMABLE.
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
HIGHLY FLAMMABLE
HARMFUL
R 1
HIGHLY FLAMMABLE
R 20/22
HARMFUL BY INHALATION AND IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 7
KEEP CONTAINER TIGHTLY CLOSED.
S 16
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
S 24
AVOID CONTACT WITH SKIN.
S 45
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
TLV AND SOURCE
FOR ETHYL ALCOHOL (ETHANOL):
ACGIH TLV-TWA: 1000 PPM (1880 MG/M3).
OSHA PEL: 8H TWA 1000 PPM (1900 MG/M3).
FOR METHYL ALCOHOL - SKIN:
ACGIH TLV-TWA: 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).
OSHA PEL: 8 H TWA 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).
FOR 4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE):
ACGIH TLV-TWA: 50 PPM; STEL: 75 PPM.
OSHA PEL FINAL: 8H TWA 50 PPM (205 MG/M3); STEL: 75 PPM (300 MG/M3).
REVIEWS, STANDARDS, AND REGULATIONS
OEL-MAK
NOHS 1974: HZD A1175; NIS 1; TNF 33; NOS 2; TNE 594
NOES 1983: HZD A1175; NIS 4; TNF 476; NOS 9; TNE 5565; TFE 4002
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
U.S. INFORMATION
13.3% METHANOL 67-56-1
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