



# MATERIAL SAFETY DATA SHEET

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Revision No.: 1  
Emergency Phone: 800-424-9300  
(CHEMTREC 24 HR)

## **SECTION 1. CHEMICAL IDENTIFICATION**

CATALOG #: **AAA-99-5021 & AAA-99-5020**  
NAME: Ninhydrin Reagent Kit (2 solutions)

## **SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

### **(Reagent 1) Ninhydrin Solution:**

CAS#:	485-47-2	Ninhydrin [1]	4.2%
	16940-66-2	Sodium borohydride [2]	---
	107-98-2	Propylene glycol monomethyl ether [3]	approx.95%

### **(Reagent 2) Buffer Solution:**

CAS#	6108-17-4	Lithium acetate dihydrate [4]	20%
	64-19-7	Acetic acid [5]	13%
	107-98-2	Propylene glycol monomethyl ether [3]	approx.40%

SYNONYMS: [1]= 2,2-Dihydroxy-1H-indene-1, 3(2H)-dione

[2]= Sodium Boron hydrate

[3]= PGM, 1-Methoxy-2propanol

[5]= Acetic acid, glacial; ethanoic acid, acetic acid(aqueous solution)

FORMULA: [1]= C<sub>9</sub>H<sub>6</sub>O<sub>4</sub>, [2]= NaBH<sub>4</sub>, [3]=C<sub>4</sub>H<sub>10</sub>O<sub>2</sub> [4]=C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>L<sub>i</sub>x2H<sub>2</sub>O,  
[5]=C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

MOLECULAR WEIGHT: [1]= 178.4, [2]=37.84, [3]=90.12, [4]=101.99, [5]=60.06

TSCA INVENTORY: 1,2,3,=Listed, 4= Listed (as Anhydrous)

EINECS NO: [1]=207-618-1 [2]=241-004-4 [3]=203-539-1

[4]= Listed (as Anhydrous; CAS No. 546-89-4)

[5]=

INDICATION OF DANGER: SYMBOL -----, R-phrases : 10

## **SECTION 3. HAZARDS IDENTIFICATION**



LABEL PRECAUTIONARY STATEMENTS: FLAMMABLE

May be harmful if inhaled and ingested.  
May cause eye and skin irritation.

NFPA Ratings (SCALE 0-4): HEALTH=0 FIRE=3 REACTIVITY=0

PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash

#### **SECTION 4. FIRST-AID MEASURES**

SEEK MEDICAL ASSISTANCE FOR ANY OVEREXPOSURE.

SKIN: remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. If irritation persists, consult a physician.

EYES: Remove any contact lenses at once. Flush eyes well with flooding amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If irritation persists consult a physician.

INGESTION: Rinse mouth, give plenty of water to dilute the substance. Never give anything by mouth to an unconscious person. Consult a physician.

INHALATION: Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.

#### **SECTION 5. FIRE FIGHTING MEASURES**

GENERAL INFORMATION:

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical powder, foam, water may be emitted.

SPECIAL FIREFIGHTING PROCEDURES: Firemen should wear normal protective equipment (full bunker gear) and positive-pressure self-contained breathing apparatus.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

General Information: Remove ignition sources and ventilate area. In case of insufficient ventilation, wear suitable respirator equipment. Avoid contact with skin and eyes.

ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEAN UP: Do not touch spilled material without suitable protection (See section 8) Take spilled material with ashes or other absorbents. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Put



all wastes in a plastic bag for disposal and seal it tightly. Remove, clean or dispose of contaminated clothing

## SECTION 7. HANDLING AND STORAGE

Research use only:

**HANDLING:** Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection away from source of heat or ignition and use non-sparking type tools. Use explosion-proof electrical equipments and lighting. Packed on nitrogen gas.

**STORAGE:** Store away from sunlight in cool (<25° C=77° F) well ventilated dry place at room temperature (preferably cool place). Keep container tightly closed.

**INCOMPATIBLE PRODUCTS:** Oxidizers, acids, aluminum, copper or their alloys.

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**ENGINEERING MEASURES:** Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.

**VENTILATION:** Local Exhaust; Necessary, Mechanical (General) ; Recommended

**CONTROL PARAMETER:**

- [3] OSHA Final Limits; TWA= 100 ppm, 360mg/m<sup>3</sup>; STEL= 150ppm, 540mg/m<sup>3</sup>  
ACGIH TLV (s); TWA= 100ppm, 369mg/m<sup>3</sup>; STEL=150ppm; 553mg/m<sup>3</sup>  
[1],[2],[4]: none established  
[5] OSHA Final Limits; TWA=10 ppm,

**PERSONAL PROTECTIVE EQUIPMENT:**

- Respirator protection; NIOSH/MSHA approved respirator  
Hand protection; Chemical resistant gloves  
Eye protection; Safety glasses (goggles)  
Skin protection; Protective clothing

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** (R1); Pale yellow clear liquid, (R2); Colorless clear liquid

**Odor:** (R1); Slightly characteristic odor, (R2); Acetic acid odor

**pH:** (R1); not available, (R2);5.25 (<25° C=77° F )

**BOILING POINT:** Not available

**MELTING POINT:** Not available

**FLASH POINT:** (R1); 32.3 ° C= 90.1 ° F (TCC), (R2); 51.3 ° C- 124.3 ° F

Flammable Liquid

DECOMPOSITION TEMPERATURE: Not available

EXPLOSIVE LIMITS: Not available

VAPOR PRESSURE: Not available

SPECIFIC GRAVITY: Not available

SOLUBILITY IN:

Water; (R1) , (R2); Miscible

LogPo/w: Not available

## **SECTION 10. STABILITY AND REACTIVITY**

CONDITIONS TO AVOID: Sulight, heat, open flames, high temperature, sparks, static electrical charge and other ignition sources.

INCOMPATIBILITIES (MATERIAL TO AVOID): Oxidizers, acids, aluminum, copper or their alloys.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, sodium compounds and hydrogen may be formed.

HAZARDOUS POLYMERIZATION: Will not occur.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

ACUTE TOXICITY DATA: Not available as the mixture

[1]=LDL<sub>o</sub> (oral, rat): 250mg/kg (NCNSA6 5, 28, 53)

[2]= LDL<sub>o</sub> (oral, rat): 160mg/kg (14KTAK - 693, 64)

[3]= LD50 (oral, rat): 5660mg/kg (A1HAAP 23, 95, 62)

LD50 (skin, rabbit): 13mg/kg (NPIRI\* 1, 105,74)

TCL<sub>o</sub> (ihl, human): 3000ppm (NIPRI\* 1, 105,74)

IRRIATION DATA: Not available as the mixture

[3]= Eye: rabbit; 230 mg; Mild (AMIHBC 9, 509, 54)

Skin: rabbit; 500 mg open; Mild (UCDS\*\* 11/15/71)

MUTATION DATA: Not available as the mixture

REPRODUCTIVE EFFECTS DATA:

Not available as the mixture

[3]= TC<sub>0</sub> (IHL, RAT) : 3000ppm/6H (6-15D preg); Specific developmental abnormalities (FAATDF 4, 784, 84)

TURMORIGENIC DATA:

Not available as the mixture and components

ADDITIONAL INFORMATION:

NTP: Not listed IARC: Not listed

OSHA: Not listed ACGIH: Not listed

**SECTION 12. ECOLOGICAL INFORMATION**

BIODEGRADABILITY: [3]= This component material is biodegradable.

BIOACCUMULATION POTENTIAL: Not available.

AQUATIC TOXICITY: Not available.

OTHER INFORMATION: [3]= WGK; 1

**SECTION 13. DISPOSAL CONSIDERATIONS**

Burn in small portion in a chemical incinerator equipped with an afterburner and scrubber in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environmental agency for specific rules).

**SECTION 14. TRANSPORTATION INFORMATION**

SHIPPING NAME: 1-Methoxy-2-propanol

HAZARD CLASS: Flammable liquid. (Class 3)

UN NUMBER: UN3092

PACKING GROUP:

DOT (Department of Transportation):

PROPER SHIPPING NAME: 1-Methoxy-2-propanol

HAZARD CLASS: Flammable liquid (Class 3)

IDENTIFICATION NUMBER: UN3092

**SECTION 15. REGULATORY INFORMATION**

Methanol:

US Federal

[1]= Not listed

[2]= DOT Haz. Mat., NJ1 : New Jersey RTK Hazardous Substance List

[3]= TSCA/8 (d) Heal. Saf. Data Rule, DOT Haz. Mat., Mass Subst. List, New Jers. RTK subst. List. Penn haz. Subst. List

[4]= TSCA CHIPs

EU REGULATIONS:

SYMBOL: -----

R-phases: 10

Flammable

Sphrases: 24

Avoid contact with skin.

EC index No.: [3]= 603-064-00-3, [1],[2],[4], = Not listed

