



KEY SCIENTIFIC PRODUCTS
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Safety Data Sheet

1 Identification

GHS Product Identifier

Product Name: **Ninhydrin in DMSO**

Catalog Number: **K475**

Recommended use of the chemical and restriction on use

For invitro diagnostic use only by trained professionals.

Supplier's details

KEY SCIENTIFIC PRODUCTS, INC
1113 E REYNOLDS
STAMFORD, TX 79553

Telephone: 800-843-1539
325-773-3918

2 Hazard(s) identification

GHS label elements

Warning



Combustible liquid

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation

Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse mouth.

If skin irritation occurs: Get medical advice/attention.

IF eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container to an approved waste disposal plant.

Other hazards which do not result in classification

Rapidly absorbed through skin.

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
Ninhydrin	485-47-2	207-618-1	11 - 11.11	
Dimethyl sulfoxide	67-68-5	200-664-3	88 - 88.89	

4 First-aid measures

Description of necessary first-aid measures

EYES: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin: Wash with plenty of soap and water. Consult a physician.

5 Fire-fighting measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or CO₂.

Specific hazards arising from the chemical

No data available.

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear lab coat, gloves, and safety glasses. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage and collect by wet-brushing. Contain in suitable closed container. Pick up and arrange disposal without creating dust.

7 Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid dust and aerosol formation. Ensure adequate ventilation. Avoid inhalation of

vapor or mist. Keep away from sources of ignition-no smoking. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Take measures to prevent build up of electrostatic charge.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

8 Exposure controls/personal protection

Control parameters

USA Workplace Environmental Exposure Levels (WEEL): Dimethyl sulfoxide
CAS# 67-68-5
TWA Control parameters 250 ppm.

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the day.

Individual protection measures

Eye/face protection: Safety glasses with side shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN (EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9 Physical and chemical properties

Physical and chemical properties

Appearance:	Form: Liquid Color: Yellow
Odor:	Mild sulfurous
Odor Threshold:	No data available
pH:	No data available
Melting point/freezing point:	Range 16-19 °C (61-66 °F)
Melting point:	No data available

Flash point:	87 °C (189 °F) - closed cup - ASTM D 93
Evaporation rate:	No data available
Flammability:	No data available
Upper/lower flammability/explosion limits:	Upper explosion limit: 42 %V Lower explosion limit: 3.4 %V
Vapor pressure:	0.55 hPa (0.41mmHg) at 20 °C (68 °F) 4hPa (3 mmHg) at 50 °C (122 °F)
Vapor density:	2.70 - (Air = 1.0)
Relative density:	1.1 g/mL
Water solubility:	Completely miscible
Partition coefficient (n-octal/water):	log POW: -1349
Auto-ignition temperature:	300-302 °C (572-576 °F)
Decomposition temperature:	> 190 °C (>374 °F) -
Viscosity:	No data available
Explosive properties:	Not explosive
Other safety information	
Solubility in other solvents:	Alcohol-soluble Diethylether-soluble
Surface tension:	43.5 mN/m at 20 °C (68 °F)
Relative vapor density:	2.70 - (Air=1.0)

10 Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames, and sparks

Incompatible materials

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions-Carbon oxides, Sulphur oxides.

Other decomposition products: No data available

In the event of fire: see section 5

11 Toxicological information

Toxicological (health) effects

Acute toxicity - DMSO

LD50 Oral -Rat - 14500 mg/kg

LC50 inhalation -Rat - 4h-40250 ppm

LD50 dermal - Rabbit - > 5000 mg/kg

No data available

Skin corrosion/irritation

Mild skin irritation

Serious eye damage

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Mouse

lymphocyte

Cytogenetic analysis

Mouse

lymphocyte

Mutation in mammalian somatic cells

Rat

Cytogenic analysis

Mouse

DNA Damage

Carcinogenicity

Rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Acute toxicity - Ninhydrin

LD50 - Oral Rat -600mg/kg

Inhalation - No data available

Dermal - No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproduction toxicity-DMSO

Rat-Intraperitoneal

Effects on Fertility: Abortion

Rat-Intraperitoneal

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Rat-Subcutaneous

Effects on Fertility: Post implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Litter size (e.g., # fetuses per litter; measured before birth).

Mouse-Oral

Effects on Fertility: Pre-implantation mortality (e.g., reduction in number corpora lutea).

0

Effects on Embryo: Fetotoxicity (except death, e.g., stunted fetus).

Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity-DMSO

Mouse-Intraperitoneal

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific Developmental Abnormalities: Musculoskeletal system.

Specific target organ-single exposure

No data available

Specific target organ-repeated exposure

No data available

Aspiration hazard

No data available

Additional information

RTECS: PV6210000, NK5425000

Exposure to large amounts can cause: redness of skin, itching, burning, sedation, Headache, Nausea, Dizziness

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Eyes-Eye disease

Based on Human Evidence

12 Ecological information

Toxicity

Toxicity to fish	LC50-Pimephales promelas (fathead minnow) - 34000 mg/l - 96 h LC50-Oncorhynchus mykiss (rainbow trout) - 35000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50-Daphnia magna (Water flea) - 246000 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	EC50-Pseudokirchneriella subcapitata (green algae) - 17000 mg/l - 48 h (OECD Test Guideline 201)

Persistence and degradability

Result: 31% -According to the results of tests of biodegradability this product is not readily biodegradable (OECD Test Guideline 301D)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Stability in water: -0.12-1.2 h at 30 °C

Remarks: Hydrolyses readily.

Other adverse effects

No data available

13 Disposal considerations

Disposal methods

Product

Contact a licensed professional waste disposal service to dispose of this material.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14 Transport information

UN Number

DOT (US)

NA-Number: 1993 Class: NONE Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide)
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

SARA 302 Components

No chemicals in the material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire hazard, Chronic Health Hazard, Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right To Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01
Indian-1,2,3-trione	485-47-2	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01
Indian-1,2,3-trione	485-47-2	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16 Other information

Other information

Full text of H-statements referred to under sections 2 and 3.

Flam.Liq.	Flammable liquids
H227	Combustible liquid
Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
Skin Irrit.	Causes serious eye irritation

HMIS Rating

Health hazard:	2
Chronic Health Hazard	
Flammability:	0
Physical Hazard:	0

NFPA Rating

Health Hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further Information

The above information, to the best of our knowledge, is accurate. Key Scientific Products assumes no liability whatsoever for the accuracy or completeness of the information stated above. Final determination of suitability of materials is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards may be described, we cannot guarantee that these are the only hazards that exist.