

Safety Data Sheet
Fluorescein Phe-Pro-Arg-chloromethylketone (PPACK)

SECTION 1: Identification

1.1 Product identifier

Product name Fluorescein Phe-Pro-Arg-chloromethylketone (PPACK)
Product number FFPRCK-06

1.2 Other means of identification

Fluorescein H-D-Phe-Pro-Arg-chloromethylketone

1.3 Recommended use of the chemical and restrictions on use

Laboratory chemicals

1.4 Supplier's details

Name Haematologic Technologies, Inc.
Address 57 River Road
Essex Junction, VT 05452
USA

Telephone +1 (802) 878-1777
Fax +1 (802) 878-1776
email hti@haemtech.com

1.5 Emergency phone number(s)

+1 (802) 878-1777 Hours of operation: M-F 08:00-16:30 EST
+1 (800) 424-9300 (CHEMTREC[®]) during non-company hours

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with OSHA (29 CFR 1910.1200)

- Sensitization, respiratory (chapter 3.4), Cat. 1
- Sensitization, skin (chapter 3.4), Cat. 1
- Flammable liquids (chapter 2.6), Cat. 4
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram



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Hazard statement(s)

H227	Combustible liquid
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H400	Very toxic to aquatic life

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321	Specific treatment (see ... on this label).
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Component	Concentration
Phe-Pro-Arg-Chloromethylketone (CAS no.: 71142-71-7) CLASSIFICATIONS: No data available. HAZARDS: No data available.	0.1 - 2 % (Weight)
Fluorescein isothiocyanate isomer I (CAS no.: 3326-32-7) CLASSIFICATIONS: Sensitization, respiratory (chapter 3.4), Cat. 1; Sensitization, skin (chapter 3.4), Cat. 1. HAZARDS: H317 - May cause an allergic skin reaction; H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.	< 0.1 % (Weight)
DIMETHYL SULFOXIDE (CAS no.: 67-68-5; EC no.: 200-664-3) CLASSIFICATIONS: Flammable liquids (chapter 2.6), Cat. 4; Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1. HAZARDS: H227 - Combustible liquid.	98 % (Volume)

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician.

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In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Personal protective equipment for first-aid responders	No data available.

4.2 Most important symptoms/effects, acute and delayed

No data available.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No data available.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

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

5.2 Specific hazards arising from the chemical

Carbon oxides, Sulphur oxides

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Reference to other sections

For disposal see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Recommended storage at -20°C. Hygroscopic.

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Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 67-68-5 (EC: 200-664-3)

DIMETHYL SULFOXIDE

250.00 ppm TWA

8.2 Appropriate engineering controls

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

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



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 166(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 multipurpose 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).

Thermal hazards

No data available.

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form

Liquid, may be tinted yellow

Odor

Nearly odorless

Odor threshold

No data

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pH	No data
Melting point/freezing point	No data
Initial boiling point and boiling range	No data
Flash point	Not applicable
Evaporation rate	No data
Flammability (solid, gas)	Not applicable
Upper/lower flammability limits	No data
Vapor pressure	No data
Vapor density	No data
Relative density	No data
Solubility(ies)	No data available.
Partition coefficient: n-octanol/water	No data
Auto-ignition temperature	No data
Decomposition temperature	No data
Viscosity	No data
Explosive properties	No data
Oxidizing properties	No data

Other safety information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

No data available. Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

DIMETHYL SULFOXIDE

LD50 Oral - Rat - 14,500 mg/kg

LC50 Inhalation - Rat - 40,250 ppm - 4 hours

LD50 Skin - Rabbit - > 5,000 mg/kg

Skin corrosion/irritation

Absorbs rapidly through skin! Mild skin irritation.

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Serious eye damage/irritation

No data available.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

DIMETHYL SULFOXIDE:

Mouse
lymphocyte
Cytogenetic analysis

Mouse
lymphocyte
Mutation in mammalian somatic cells.

Rat
Cytogenetic analysis

Mouse
DNA damage

Carcinogenicity

DIMETHYL SULFOXIDE:

Carcinogenicity - Rat - Oral
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Carcinogenicity - Mouse - Oral
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.

Reproductive toxicity

DIMETHYL SULFOXIDE:

Reproductive toxicity - Rat - Intraperitoneal
Effects on Fertility: Abortion.

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

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

Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).
Reproductive toxicity - Mouse - Oral

Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Summary of evaluation of the CMR properties

No data available.

STOT-single exposure

No data available.

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STOT-repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

DIMETHYL SULFOXIDE:

Exposure to large amounts can cause:., redness of skin, Itching, burning, sedation, Headache, Nausea, Dizziness
Eyes - Eye disease - Based on Human Evidence

SECTION 12: Ecological information

Toxicity

DIMETHYL SULFOXIDE

LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 hours

LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 hours

EC50 - Daphnia magna (water flea) - 24,600 - 48 hours

Remarks: OECD Test Guideline 202

EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 hours

Remarks: OECD Test Guideline 201

Persistence and degradability

No data available.DIMETHYL SULFOXIDE:

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.

Results of PBT and vPvB assessment

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal of the product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Disposal of contaminated packaging

Dispose of as unused product.

Waste treatment

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This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Sewage disposal

No data available.

Other disposal recommendations

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

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

New Jersey Right To Know Components

Common name: DIMETHYL SULFOXIDE

CAS number: 67-68-5

2-(6-Hydroxy-3-oxo-(3H)-xanthen-9-yl)-5-isothiocyanatobenzoic acid; CAS: 3326-32-7

SARA 302 Components

No chemicals in this 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 Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

Common name: DIMETHYL SULFOXIDE

CAS number: 67-68-5

2-(6-Hydroxy-3-oxo-(3H)-xanthen-9-yl)-5-isothiocyanatobenzoic acid; CAS: 3326-32-7

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.

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

SECTION 16: Other information

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Haematologic Technologies, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Haematologic Technologies, Inc. has been advised of the possibility of such damages.