



Safety Data Sheet
PermaRed/HRP™ (EU)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	PermaRed/HRP™ (EU)
Product number	K075, K075-110
Brand	PermaRed/HRP™

Other means of identification

Component 1. K075C (Chromogen)
Component 2. K075B (Buffer)

1.2 Relevant identified uses of the substance or mixture and uses advised against

For In Vitro Diagnostic use.
Immunohistochemistry
In Situ Hybridization

1.3 Details of the supplier of the safety data sheet

Name	Diagnostic Biosystems
Address	6616 Owens Drive Pleasanton CA 94588 USA
Telephone	(888) 896-3350
email	customersupport@dbiosys.com

1.4 Emergency telephone number

(925) 484-3350

SECTION 2: Hazards identification

General hazard statement

For Professional Users Only

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333

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- Toxic to reproduction (chapter 3.7), Cat. 1A, H360
- Toxic to reproduction (chapter 3.7), Cat. 1B, H360
- Carcinogenicity (chapter 3.6), Cat. 1B, H350
- Germ cell mutagenicity (chapter 3.5), Cat. 2, H341
- Serious eye damage/eye irritation (chapter 3.3), Cat. 2, H319
- Skin corrosion/irritation (chapter 3.2), Cat. 2, H315
- Acute toxicity, dermal (chapter 3.1), Cat. 5, H313
- Acute toxicity, inhalation (chapter 3.1), Cat. 4, H332
- Acute toxicity, oral (chapter 3.1), Cat. 4, H302
- Specific target organ toxicity following repeated exposure (chapter 3.9), Cat. 2, H373
- Specific target organ toxicity following single exposure (chapter 3.8), Cat. 3, H335, H336

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms



1. Health hazard; 2. Exclamation mark

Signal word

Danger

Hazard statements

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.

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P337+P313
P362+P364
P403+P233
P405
P501

If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to a licensed disposal company.

2.3 Other hazards

Do not let product enter drains.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

No data available.

Components

Component 1.

1. Red Chromogen 1*

Concentration < 1 % (weight)

2. Red Chromogen 2*

Concentration < 1 % (weight)

3. Red Chromogen 3*

Concentration < 1 % (weight)

4. 2-METHOXYETHANOL

Concentration 15 - 25 % (volume)

Other names / synonyms

Ethanol, 2-methoxy-; Ethylene glycol monomethyl ether

EC no.

203-713-7

CAS no.

109-86-4

Index no.

603-011-00-4

- Flammable liquids (chapter 2.6), Cat. 3
- Reproductive toxicity (chapter 3.7), Cat. 1B
- Acute toxicity, inhalation (chapter 3.1), Cat. 4
- Acute toxicity, dermal (chapter 3.1), Cat. 4
- Acute toxicity, oral (chapter 3.1), Cat. 4

H226

Flammable liquid and vapor

H302

Harmful if swallowed

H312

Harmful in contact with skin

H332

Harmful if inhaled

H360FD

May damage fertility. May damage the unborn child.

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Component 2.

1. N-METHYL-2-PYRROLIDONE

Concentration 20 - 30 % (volume)

Other names / synonyms 2-Pyrrolidinone, 1-methyl-; Methyl pyrrolidone; N-Methylpyrrolidone

EC no. 212-828-1

CAS no. 872-50-4

Index no. 606-021-00-7

- Reproductive toxicity (chapter 3.7), Cat. 1B
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

H360D May damage the unborn child

SCLs/M-factors/ATEs STOT SE 3; H335: C ≥ 10 %

2. Ethylene glycol

Concentration 20 - 30 % (volume)

Other names / synonyms 1,2-DIHYDROXYETHANE; 1,2-ETHANDIOL; 1,2-Ethenediol; DOWTHERM SR 1; ETHANE-1,2-DIOL; Ethane-1,2-diol, Ethylene glycol; ethenediol; ETHYLENE ALCOHOL; ETHYLENE DIHYDRATE; Ethylene glycol (ingested); ETHYLENEGLYCOL; Glycol; GLYCOL ALCOHOL; LUTROL-9; M.E.G.; MACROGOL 400 BPC; MONOETHYLENE GLYCOL; NCI-C00920; NORKOOL; TESCOLO; UCAR 17

EC no. 203-473-3

CAS no. 107-21-1

Index no. 603-027-00-1

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2

H302 Harmful if swallowed

H373 May cause damage to organs [organs] through prolonged or repeated exposure [route]

3. Reaction mass of: 5-Chloro-2-methyl-4- isothiazolin-3-one and 2-Methyl-2H-isothiazol-3-one (3:1)

Concentration < 0.1 % (volume)

Other names / synonyms 3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone; Kathon 886;

EC no. —

CAS no. 55965-84-9

Index no. 613-167-00-5

- Acute toxicity, inhalation (chapter 3.1), Cat. 2
- Acute toxicity, dermal (chapter 3.1), Cat. 2

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- Acute toxicity, oral (chapter 3.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 1C
- Eye damage/irritation (chapter 3.3), Cat. 1
- Sensitization - skin (chapter 3.4), Cat. 1A
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H301	Toxic if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
SCLs/M-factors/ATEs	Skin Corr. 1C; : C ≥ ,6 % Skin Irrit. 2; H315: ,06 % ≤ C < ,6 % Eye Dam. 1; : C ≥ ,6 % Eye Irrit. 2; H319: ,06 % ≤ C < ,6 % Skin Sens. 1A; : C ≥ ,0015 % M=100 M=100

Trade secret statement

One or more components above have names and/or concentrations withheld to protect trade secrets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes	In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
Following inhalation	Call a poison center or doctor if you feel unwell. Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
Following skin contact	Wash with plenty of soap and water for at least 15 minutes. Call a poison center or doctor if you feel unwell. Acute and delayed symptoms and effects: May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
Following eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Acute and delayed symptoms and effects: May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Following ingestion	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce

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vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Self-protection of the first aider

General industrial hygiene practice.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Reaction mass of: 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H-isothiazol-3-one (3:1): Carbon oxide. Nitrogen oxides.

Ethylene glycol: No data available.

5.3 Advice for firefighters

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

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

As an immediate precautionary measure, isolate spill or leak area in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

6.2 Environmental precautions

Do not let product enter drains unless in accordance with Federal, State and local laws and regulations.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

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7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. For precautions see section 2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 107-21-1 (EC: 203-473-3)

Ethylene glycol

ACGIH (USA): 100 mg/m³ PEL-C inhalation; 100 mg/m³ PEL-C inhalation; 100 mg/m³ PEL-C inhalation;
Cal/OSHA (USA): 40 ppm, 100 mg/m³ PEL-C inhalation

CAS: 109-86-4

2-METHOXYETHANOL

Cal/OSHA: 5 ppm PEL inhalation; NIOSH: 0.1 ppm REL inhalation; OSHA: 25 ppm PEL inhalation; 80 mg/m³ PEL inhalation

8.2 Exposure controls

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Pictograms



Eye and face protection

Safety glasses if there is a splash hazard. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Protective gloves. Consult manufacturer specifications for further information.

Body protection

Wear protective 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

Not required under normal use conditions. 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

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No data available.

Control banding approach

No data available.

Environmental exposure controls

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Transparent
Colour	Clear
Odour	None
Odour threshold	No data available.
pH	7.0
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

Particle characteristics

No data available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

9.2.2 Other safety characteristics

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

None under normal use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

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No data available.

10.4 Conditions to avoid

Contact with incompatible materials. Sources of ignition. Exposure to heat.

10.5 Incompatible materials

Do not store near acids, Strong oxidizing agents, Carbon dioxide (CO₂)

Ethylene glycol: Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

10.6 Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

Ethylene glycol: Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Symptoms (including delayed and immediate effects):

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

The ATE (dermal) of the mixture is: 4400 mg/kg bw

The ATE (gas inhalation) of the mixture is: 18000 ppmV

The ATE (oral) of the mixture is: 909.09 mg/kg bw

Ethylene glycol

LD50 Oral - Rat - 4,700 mg/kg

Skin corrosion/irritation

May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ethylene glycol

LD50 Skin - Rabbit - 10,626 mg/kg

Serious eye damage/irritation

May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

Suspected of causing genetic defects

Carcinogenicity

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

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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.

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

Reproductive toxicity

May damage fertility or the unborn child

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

No data available.

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Ethylene glycol

LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h

Ethylene glycol

LC50 - Leuciscus idus (golden orfe) - >10,000 mg/l - 48 h

Result: Bioconcentration factor (BCF): 0.60

Ethylene glycol

NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d

Ethylene glycol

NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h

Ethylene glycol

EC50 - Daphnia magna (water flea) - 74,000 mg/l - 24 h

Ethylene glycol

NOEC - Daphnia magna (water flea) - 24,000 mg/l - 48 h

Ethylene glycol

LC50 - Daphnia magna (water flea) - 41,000 mg/l - 48 h

12.2 Persistence and degradability

Ethylene glycol

Result: Ratio BOD/ThBOD 0.78 %

12.3 Bioaccumulative potential

Ethylene glycol

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- other fish - 50 mg/l - 61 d

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal

Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Packaging disposal

Dispose of as unused product.

Waste treatment

No data available.

Sewage disposal

Sewage disposal is not recommended

Other disposal recommendations

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

SECTION 14: Transport information

14.1 UN Number	None
14.2 UN Proper Shipping Name	None
14.3 Transport hazard class(es)	None
14.4 Packing group	None
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Maritime transport in bulk according to IMO instruments	None

SECTION 15: Regulatory information

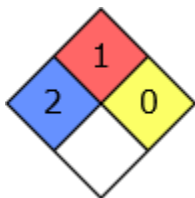
HMIS Rating

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HEALTH	* 2
FLAMMABILITY	1
PHYSICAL HAZARD	
PERSONAL PROTECTION	

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NFPA Rating



SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H302	Harmful if swallowed
H313	May be harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H333	May be harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

SDS-0069, Rev. D

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 Diagnostic Biosystems 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 Diagnostic Biosystems has been advised of the possibility of such damages.