

Safety Data Sheet
PermaBlack™/HRP (EU)



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

1.1 Product identifier

Product name	PermaBlack™/HRP (EU)
Product number	K062, K062-110
Brand	PermaBlack™/HRP

Other means of identification

COMPONENT 1: K062C
COMPONENT 2: K062B

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

In Vitro Diagnostics
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 (Office Hours 9AM-6PM, Monday - Friday, Pacific Standard Time)

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, dermal (chapter 3.1), Cat. 5, H313

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- Acute toxicity, inhalation (chapter 3.1), Cat. 4, H332
- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333
- Carcinogenicity (chapter 3.6), Cat. 1B, H350
- Germ cell mutagenicity (chapter 3.5), Cat. 2, H341
- Toxic to reproduction (chapter 3.7), Cat. 1A, H360
- Toxic to reproduction (chapter 3.7), Cat. 1B, H360

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. Exclamation mark; 2. Health hazard

Signal word

Danger

Hazard statements

H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P405	Store locked up.
P501	Dispose of contents/container to a licensed disposal company.

2.3 Other hazards

No other hazard have been identified.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Component 1.

1. 3,3'-Diaminobenzidine tetrahydrochloride hydrate

Concentration	< 1 % (weight)
CAS no.	868272-85-9

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Other names / synonyms [1,1'-Biphenyl]-3,3',4,4'-tetramine; biphenyl-3,3',4,4'-tetrayltetraamine;

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Carcinogenicity (chapter 3.6), Cat. 1B
- Germ cell mutagenicity (chapter 3.5), Cat. 2

H341 Suspected of causing genetic defects
H350 May cause cancer

2. N,N-DIMETHYLFORMAMIDE

Concentration < 1 % (volume)

Other names / synonyms Formamide, N,N-dimethyl-;
EC no. 200-679-5
CAS no. 68-12-2
Index no. 616-001-00-X

- Reproductive toxicity (chapter 3.7), Cat. 1B
- Acute toxicity, inhalation (chapter 3.1), Cat. 4
- Acute toxicity, dermal (chapter 3.1), Cat. 4
- Eye damage/irritation (chapter 3.3), Cat. 2A

H312 Harmful in contact with skin
H319 Causes serious eye irritation
H332 Harmful if inhaled
H360D May damage the unborn child

3. Black Chromogen*

Concentration < 0.5 % (weight)

Component 2.

1. Imidazole

Concentration 0.5 - < 2 % (weight)

Other names / synonyms 1H-Imidazole;
EC no. 206-019-2
CAS no. 288-32-4
Index no. 613-319-00-0

- Reproductive toxicity (chapter 3.7), Cat. 1B
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 1C

H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H360D May damage the unborn child

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Trade secret statement

*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Following skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Following eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
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 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	Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

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 2.2) 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

Dry powder

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

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Further information

May intensify fire; oxidiser.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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.

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Use personal protective 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

Should not be released into the environment. See Section 12 for additional ecological information.

6.3 Methods and material 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).

6.4 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 formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. 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. 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.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 68-12-2

N,N-DIMETHYLFORMAMIDE

Ca/OSHA: 10 ppm PEL inhalation; NIOSH: 10 ppm REL inhalation; OSHA: 10 ppm PEL inhalation; 30 mg/m³ PEL inhalation

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Individual protection measures, such as personal protective equipment

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Pictograms



Eye and face protection

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

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards

No data available

Control banding approach

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

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Colour	Light Brown
Odour	No data available.
Odour threshold	No data available.
pH	No data available.
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.

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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

No data available.

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 recommended storage conditions.

10.3 Possibility of hazardous reactions

None under normal use conditions.

10.4 Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

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

Acute toxicity

The ATE (dermal) of the mixture is: 3142.86 mg/kg bw

The ATE (gas inhalation) of the mixture is: 12857.14 ppmV

The ATE (vapor inhalation) of the mixture is: 31.43 mg/l

3,3'-Diaminobenzidine

LD50 Oral - Mouse - 1,834 mg/kg

Skin corrosion/irritation

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May cause skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Germ cell mutagenicity

Suspected of causing genetic defects

Carcinogenicity

May cause cancer

3,3'-Diaminobenzidine

Oral - Rat

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors. Presumed to have carcinogenic potential for humans

Reproductive toxicity

May damage fertility or the unborn child

STOT-single exposure

May cause damage to organs.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

May be harmful if swallowed and enters airways

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

SECTION 12: Ecological information

12.1 Toxicity

No data available.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

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.

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12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal

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

Packaging disposal

Dispose of as unused product.

Waste treatment

No data available

Sewage disposal

Do not let product enter drains

Other disposal recommendations

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2 Chemical Safety Assessment

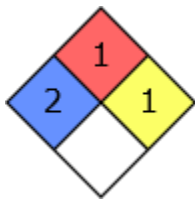
No supplier of this product has not conducted any Chemical Safety Assessment

HMIS Rating

PermaBlack™/HRP (EU)	
HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	1
PERSONAL PROTECTION	

NFPA Rating

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SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H313	May be harmful in contact with skin
H332	Harmful if inhaled
H333	May be harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child

SDS-0076, Rev. C

Further information/disclaimer

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