



MIDORI^{Green} Direct

Cat. No.	Product	Content
MG06	MIDORI ^{Green} Direct	1 ml
MG05	MIDORI ^{Green} Direct sample	50 µL

1. Identity of the substance and the manufacturer

1.1. Name of the substances or preparations

MIDORI^{Green} Direct

1.2. Recommended use of the chemical and restrictions on use

Laboratory research use only.

1.3. Name and address of the manufacturer

NIPPON Genetics EUROPE GmbH
Mariaweilerstraße 28 a
52349 Düren
Germany

1.4. Emergency telephone contact

+49 2421/554960



2. Substance or mixture possible hazards classification

2.1 Classification according to regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures (CLP)

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 GSH Classification(s)

H315: Skin irritation (Category 2)

H319: Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3),

H335: Respiratory system

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi – Irritant - R36/37/38

For the full text of the R-phrases mentioned in this Section, see Section 16.

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

Hazard pictogram:



Signal word: Warning/ Caution Irritant

Hazard statement(s)

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H373: May cause damage to organs through prolonged or repeated exposure (category 2)

**Precautionary statement(s)**

P201: Obtain special instructions before use.

P261: Avoid breathing dust.

P280: Wear protective gloves/ eye protection

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.

Supplemental Hazard Statements: none

Supplemental Hazard Statements: none

Restricted to professional users.

According to European Directive 67/548/EEC as amended.

Hazard symbol(s): Xi - Irritant

R-phrases(s)

R36/37/38: Irritating to eyes, respiratory system and skin.

S-phrases(s)

S53: Avoid exposure - obtain special instructions before use.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Restricted to professional users.

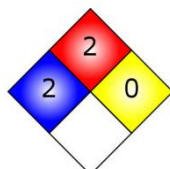
2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Hazard symbol(s): F - Flammable

WHMIS classification: Flammable liquids - Category 4

NFPA Rating:



Health hazard: 2

Fire: 2

Reactivity Hazard: 0



2.4 Additional hazards for humans and the environment

2.4.1 Possible hazardous physicochemical effects

Unknown

2.4.2 Possible adverse effects on humans and possible symptoms

No data available

2.4.3 Possible harmful effects

No data available

3. Composition/information on ingredients

3.1 Chemical characterization

Aqueous solution with inorganic and organic components.

3.2 Components

Name	REACH- Ref.-No.	CAS No.	EC No.	Proportion %	Classification according to (EC)No1272/2008
Dimethyl sulfoxide	-	67-68-5	200-664-3	55-60,4%	Xi; R36/R37/R38 Flammable liquids - Category 4 (WHMIS)
Propylene glycol	-	57-55-6	200-338-0	24%	-
H ₂ O	-	7732-18-5	231-791-2	15%	-
Active ingredients of MIDORI Green Direct*	-	-	-	0,1-1%	-
Orange dye	-	1936-15-8	217-705-6	0,1-1%	-
Thiazole Green	-	163795-75-3	838-836-0	0,1-1%	-
Xylene Cyanole FF	-	2650-17-1	220-167-5	0,1-1%	-
Tris-HCl	-	77-86-1	201-064-4	0,1-1%	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335
EDTA	-	6381-92-6	205-358-3	0,1-1%	H332; H373

*No components need to be disclosed according to the applicable regulations.



4. First-aid measures

4.1 General information:



If skin irritation or other symptoms persist, consult a physician. Show this safety data sheet to the doctor in attendance. Remove contaminated clothing and shoes, carefully clean before reuse.

4.2 After inhalation

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

4.3 After skin contact

In case of skin contact, rinse immediately with plenty of water. Consult a physician.

4.4 After eye contact



Eye contact: Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 After swallowing

Never give anything to an unconscious person. Do not induce vomiting. Rinse the mouth, spit out the fluid and drink plenty of water. Call a physician immediately and show him the safety data sheet.

4.6 Notes to physician

Decontamination, symptomatic treatment. No specific antidote known.

4.7 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

5. Firefighting measures

5.1 Suitable extinguishing media



This product is not flammable. Use extinguishing agent suitable for type of surrounding fire: water spray, dry chemical or carbon dioxide, fire extinguishing foam, extinguishing powder.



5.2 Extinguishing media which must not be used for safety reasons

No data available

5.3 Special hazards caused by the product, combustion of products or resulting gases



In the event of fire, toxic and corrosive gases - carbon monoxide, carbon dioxide, and sulphur oxides - can be released.

5.4 Special protective equipment for firefighting



Wear protective clothing. Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Additional information:

No data available.

6. Accidental release measures

6.1 Personal precautions:

Avoid contact with skin, eyes and clothing, wear appropriate protective equipment. Ensure adequate ventilation. Avoid aerosol formation. For personal protection see section 8.

6.2 Environmental precautions:

Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

6.3 Methods for cleaning up:

Soak up with absorbent material and dispose. Clean contaminated surfaces with water.

6.4 Reference to other sections.

For disposal see section 13.



7. Handling and storage

7.1 Handling

7.1.1 Information for safe handling

Inhalation of aerosols, contact with eyes, skin and clothing as well as prolonged or repeated exposure may cause irritation. Ensure that the working area is well ventilated. For precautions see section 2.2.

7.1.2 Information on fire and explosion protection

See section 5.

7.1.3 Handling rules

No special handling measures required

7.2 Storage

7.2.1 Technical measures and storage conditions

Keep container tightly closed and stored upright to prevent leakage. Always keep in containers of the same material as the original.

7.2.2 Packaging materials

Packing materials must be tested for durability before use.

7.2.3 Requirements for storage rooms and containers

Keep container tightly closed in a dry and well-ventilated place. If possible, keep in the original container. Do not use food containers because of the risk of confusion. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.2.4 Further information on storage conditions

Recommended storage temperature +4 °C. Protected from light

7.3 Specific end use(s)

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

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters:



Substance: Dimethyl sulfoxide

Country	Austria	Denmark	Finland	Germany	Sweden	Switzerland
Limit value, 8 h	160 mg/m ³	160 mg/m ³	50 ppm	160 mg/m ³	160 mg/m ³	160 mg/m ³
Limit value, short term	-	320 mg/m ³	-	320 mg/m ³	500 mg/m ³	320 mg/m ³

Other components:

Contains no relevant quantities of substances with occupational exposure limit values that have to be monitored at the workplace according to TRGS 900.

8.2 Exposure controls

Appropriate engineering controls:

Handle in accordance with Good Laboratory Practice. Wash hands before breaks and at the end of workday.

8.2.1 Personal protective equipment

Respiratory protection:

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards. Half masks according to EN 140 or full masks according to EN 136, with filters according to EN 143-P1.

Skin protection:

Handle with suitable protective gloves. Gloves must be inspected prior to use. Damaged and worn protective gloves should be replaced immediately. 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Completely unsuitable are gloves made of fabric or leather. The following gloves are suitable:

For full contact:

Material	Minimum layer thickness	Breakthrough time
Nitrile rubber	0.35 mm	≥ 480 min
Latex	0.35 mm	≥ 480 min

For splash contact:

Material	Minimum layer thickness	Breakthrough time
Natural rubber	0.5 mm	≥ 120 min
Latex	0.5 mm	≥ 120 min
Polyvinyl chloride	0.5 mm	≥ 120 min
Nitrile rubber	0.2 mm	≥ 30 min

**Eye protection:**

Safety glasses with side-shields conforming to EN166 U

**Body protection:**

Suitable protective clothing. Special body protection generally not required.

General protective and hygienic measures

Do not eat, drink or smoke during working hours. Keep away from food and drink. Avoid contact with eyes and skin. Remove contaminated and soaked clothing immediately. Wash hands before breaks and after work.

8.2.2 Limitation of environmental exposure:

Prevent further leakage or spillage if safe to do so.

8.2.3 Limitation of end-user exposure:

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance Form	Yellow-orange-red to brown, liquid
Odour	No data available
Odour Threshold	No data available
pH	7.0-9.0
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	Soluble in water
Partition coefficient	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available



9.2 Other safety information:

No data available

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

High pressure and temperatures. Stable under regular laboratory conditions.
See section 7.

10.5 Materials to avoid

Strong acids, oxidation and reducing agents.

10.6 Hazardous decomposition products

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

11. Toxicological information

11.1 Information on toxicological effects

11.1.1 The acute toxicity test

Inhalation: Aerosols may cause allergic type reactions in sensitized individuals. Ingestion: Repeated ingestion or excessive dosage may cause irritation of the gastrointestinal tract. Skin and eye contact: Generally, the product does not irritate the skin and eyes. Prolonged skin or eye contact may cause minor irritation.



Chemical name: Dimethyl sulfoxide

Parameter	Value	Species	Test
LD ₅₀ oral	145000 mg/kg	Rat	OECD Test Guideline 401
LD ₅₀ dermal	40000 mg/kg	Rat	ECHA
LD ₅₀ inhalation	4 h - > 5.33 mg/l	Rat	OECD Test Guideline 403
Other information on acute toxicity	-	-	No data available

11.2.2 Corrosive and irritant effects

Skin corrosion/irritation

Rabbit Result: slight irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: slight irritation - 24 h (OECD Test Guideline 405)

11.2.3 Respiratory or skin sensitization

Maximization Test

Guinea pig Result: negative (OECD Test Guideline 406) Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

11.2.4 Aspiration hazard

No data available

11.2.5 Subacute and chronic toxicity

May cause injury to the liver and kidneys.

11.2.6 Carcinogenicity, mutagenicity and toxicity to reproduction

mutagenicity:

No cytotoxic or mutagenic effects could be detected.

Parameter	Cell culture/ Species	Remarks
<i>In vitro</i> bacterial mutation test AMES-test	<i>Salmonella typhimurium</i> TA97/98/100/102	0,4-50 mg/plate Non-mutagenic
Sister chromatid exchange assay	Chinese hamster ovary cells	Non-mutagenic
Mutagenicity (mammal cell test): chromosome aberration	Chinese hamster ovary cells	Non-mutagenic
OECD Test Guideline 474	Rat	Non-mutagenic

Carcinogenicity:

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.

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: No data available

Specific target organ toxicity:

single exposure (Globally Harmonized System) - No data available

Specific target organ toxicity:

repeated exposure (Globally Harmonized System) - No data available

Aspiration hazard: May cause respiratory irritation

Potential health effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

11.2.7 Additional Information

Repeated dose toxicity:

Species		Period	Method	Value
Rat	Oral	18 Months	NOAEL (No observed adverse effect level)	3,300 mg/kg
Rat	Oral	18 Months	LOAEL (Lowest observed adverse effect level)	9,900 mg/kg
Monkey	Dermal	18 Months	NOAEL (No observed adverse effect level)	>= 8,910 mg/kg
Monkey	Dermal	18 Months	LOAEL (Lowest observed adverse effect level)	990 mg/kg

RTECS: PV6210000 (DMSO)

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.



11.3 Practical experience

No data available

11.4 General remarks:

When used and handled according to instructions, the product does not cause harmful effects according to our experience and current information.

12. Ecological information

12.1 Toxicity

Toxicity	Test	Species/culture	Value	Duration	Parameter
to fish	static test LC50	<i>Danio rerio</i> (zebra fish)	> 25,000 mg/l	96 h	OECD Test Guideline 203
to daphnia and other aquatic invertebrates	static test EC50	<i>Daphnia magna</i> (Water flea)	24,600 mg/l	48 h	OECD Test Guideline 202
to algae	static test ErC50	<i>Pseudokirchneriella subcapitata</i> (green algae)	17,000 mg/l	72 h	OECD Test Guideline 201
to bacteria	EC50	Activated sludge	10 - 100 mg/l	30 min	ISO 8192

12.2 Persistence and degradability

No data available. No data on biological and abiotic degradation are available for the components of the product.

12.3 Bioaccumulative potential

Aerobic

Exposure time 28 d

Result: 31 % -

Not readily biodegradable.

(OECD Test Guideline 301D)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Other adverse effects

No data available



12.7 General remarks:

When used and handled according to instructions, the product does not cause harmful effects according to our experience and current information.

13. Disposal considerations

13.1 Product

The allocation of a waste code number according to the European waste catalog should be done in consultation with the regional waste disposal company.

13.2 Packaging

Residues in packages should be removed, preferably by rinsing with water, and after complete emptying in accordance with the regulations for waste disposal. Packaging which is not completely emptied must be disposed of in the form as determined by the regional waste disposal company.

14. Transport information

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

In accordance with GGVSEB, ADR / RID, IMDG / GGVSee, ICAO / IATA-DGR

ADR/RID, GGVSEB: Not dangerous good during shipping

IMDG / GGVSee: Not dangerous good during shipping

ICAO / IATA-DGR: Not dangerous good during shipping

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA: None

14.4 Packaging group

ADR/RID, IMDG, IATA: None

14.5 Environmental hazards

ADR/RID, IMDG, IATA: None



14.6 Special precautions for user

No data available

15. Regulatory information

15.1 EU regulations

15.1.1 Chemical safety assessment according to Regulation (EC) No 1907/2006

Substance safety assessments (CSA) according to Article 14 (1) of Regulation (EC) No 1907/2006 (REACH) for the components of the product are neither banned nor restricted

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

Not a hazardous substance or mixture, see section 2

15.1.3 Hazardous components which must be listed on the label

15.1.4 Pictograms:

Signal word: Warning



15.1.5 Special labeling of certain preparations

Neither banned nor restricted

15.1.6 Approvals and/ or restrictions of use

Neither banned nor restricted

15.1.8 Information on Directive 2004/42/CE on the limitation of VOC emissions

Neither banned nor restricted

16. Other information

This information is based on our present knowledge. Its objective is to describe the product from the point of view of safety, and no warranty is made other than its characteristics. This information does not absolve the user in any circumstances from observing other Legislative, Regulatory and Administrative requirements applying to the product, and to safety, hygiene and the well-being of the people in the workplace.



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