

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 10/02/2017

Version 1.0

SECTION 1. Identification**Product identifier**

Product number	9QQ0M9
Product name	Blood-Brain Barrier hCMEC/D3 Cell Line

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

Identified uses	Biochemical research/analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification**GHS Classification**

Skin irritation, Category 2, H315
Eye irritation, Category 2A, H319

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

GHS-Labeling*Hazard pictograms**Signal Word*

Warning

Hazard Statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statements

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see supplemental first aid instructions on this label).

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution of inorganic and organic compounds.

Hazardous ingredients

Chemical name (Concentration)

CAS-No.

dimethyl sulphoxide (>= 10 % - < 30 %)

67-68-5

Exact percentages are being withheld as a trade secret.

sodium hydroxide (>= 0.1 % - < 1 %)

1310-73-2

Exact percentages are being withheld as a trade secret.

hydrochloric acid, anhydrous (>= 0.1 % - < 1 %)

7647-01-0

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects

Indication of any immediate medical attention and special treatment needed

No information available.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No aluminum, tin, or zinc containers.

Tightly closed.

Store at -196°C under liquid N₂.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

SECTION 9. Physical and chemical properties

Physical state

liquid

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Color	colorless
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Possibility of hazardous reactions

Violent reactions possible with:

Metals, Light metals, Ammonia

The generally known reaction partners of water.

Exothermic reaction with:

Acid

Conditions to avoid

no information available

Incompatible materials

Metals, Light metals

Gives off hydrogen by reaction with metals.

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Acute oral toxicity

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Acute toxicity estimate: > 20 mg/l; 4 h ; vapor

Calculation method

Symptoms: Possible symptoms: mucosal irritations

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye irritation.

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

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

OSHA

No component of this product present at levels greater than or

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

NTP	equal to 0.1% is on OSHA's list of regulated carcinogens. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Ingredients

dimethyl sulphoxide

Acute oral toxicity

LD50 Rat: 28,300 mg/kg

OECD Test Guideline 401

Acute inhalation toxicity

LC0 Rat: > 5.33 mg/l; 4 h ; dust/mist

OECD Test Guideline 403

Acute dermal toxicity

LD50 Rat: 40,000 mg/kg (RTECS)

Skin irritation

Rabbit

Result: slight irritation

OECD Test Guideline 404

Eye irritation

Rabbit

Result: slight irritation

OECD Test Guideline 405

Sensitization

Maximization Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

In animal experiments: Mouse

Result: negative

Method: OECD Test Guideline 429

Germ cell mutagenicity

Genotoxicity in vivo

Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)

Rat

Result: negative

Method: OECD Test Guideline 474

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test):

Chinese hamster ovary cells

Result: negative

Method: OECD Test Guideline 479

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

Method: OECD Test Guideline 473

Carcinogenicity

No indication of carcinogenic activity. (IUCLID)

Teratogenicity

Did not show teratogenic effects in animal experiments.

sodium hydroxide

Skin irritation

Rabbit

Result: Causes burns.

(External MSDS)

Eye irritation

Rabbit

Result: Irreversible effects on the eye

(ECHA)

Sensitization

Patch test: human

Result: negative

(ECHA)

Germ cell mutagenicity

Genotoxicity in vitro

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(Lit.)

Ames test

Result: negative

(IUCLID)

hydrochloric acid, anhydrous

Acute inhalation toxicity

LCLO human: 1,970 mg/m³; 30 min (RTECS)

Skin irritation

Rabbit

Result: Causes burns.

(IUCLID)

Eye irritation

Rabbit

Result: Causes burns.

(IUCLID)

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Sensitization

Patch test: human

Result: negative

(IUCLID)

Sensitization test: Guinea pig

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (IUCLID)

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Ingredients

dimethyl sulphoxide

Toxicity to fish

static test LC50 Danio rerio (zebra fish): > 25,000 mg/l; 96 h

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

static test EC50 Daphnia magna (Water flea): 24,600 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

Toxicity to algae

static test EC50 Pseudokirchneriella subcapitata (green algae): 17,000 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria

EC10 Pseudomonas putida: 7,100 mg/l; 16 h (IUCLID)

EC50 activated sludge: 10 - 100 mg/l; 30 min (IUCLID)

Biodegradability

31 %; 28 d; aerobic

OECD Test Guideline 301D

Not readily biodegradable.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Partition coefficient: n-octanol/water
log Pow: -1.35 (20 °C)

sodium hydroxide

Toxicity to fish

LC50 *Gambusia affinis* (Mosquito fish): 125 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Ceriodaphnia* (water flea): 40.4 mg/l; 48 h (ECHA)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min (External MSDS)

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

PBT/vPvB: Not applicable for inorganic substances

hydrochloric acid, anhydrous

Toxicity to fish

LC50 *Gambusia affinis* (Mosquito fish): 282 mg/l; 96 h (IUCLID)

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Partition coefficient: n-octanol/water

Pow: 0.512

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Henry constant

2450000 Pa·m³/mol

(Lit.) Distribution preferentially in air.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

SARA 313

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 302

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

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Ingredients

sodium hydroxide

Zinc sulphate heptahydrate

nickel(II) chloride hexahydrate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Ingredients

sodium hydroxide

Zinc sulphate heptahydrate

nickel(II) chloride hexahydrate

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

DEA List I

Not listed

DEA List II

Listed

Ingredients

hydrochloric acid, anhydrous

7647-01-0

US State Regulations

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

Massachusetts Right To Know

Ingredients

hydrochloric acid, anhydrous

Selenious acid

New Jersey Right To Know

Ingredients

dimethyl sulphoxide

California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

Ingredients

nickel(II) chloride hexahydrate

Notification status

TSCA:

Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.

DSL:

This product contains one or several components that are not on the Canadian DSL nor NDSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Warning

Hazard Statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary Statements

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

9QQ0M9

Version 1.0

Product name

Blood-Brain Barrier hCMEC/D3 Cell Line

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

H315

Causes skin irritation.

H319

Causes serious eye irritation.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Millipore Ref.

SCC066

Date of issue:10/02/2017

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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