



SAFETY DATA SHEET

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

Date of issue: 06/25/2014

Version 1.0

SECTION 1. Identification

Product identifier

Product number	BI0833
Product name	Deblock Reagent 3% (v/v) Dichloroacetic Acid in Dichloromethane For DNA Synthesis Novabiochem®

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

Identified uses	Reagent for 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)
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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 2, H319
Carcinogenicity, Category 2, H351

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.
H351 Suspected of causing cancer.

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Precautionary Statements

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.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

dichloromethane (>= 90 % - <= 100 %)

75-09-2

Exact percentages are being withheld as a trade secret.

Dichloro acetic acid (>= 1 % - < 5 %)

79-43-6

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

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

Eye contact

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

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.

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SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

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

Special hazards arising from the substance or mixture

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

Hydrogen chloride gas

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

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed.

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Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>dichlormethane 75-09-2</i>			
ACGIH	Time Weighted Average (TWA):	50 ppm	
<i>Dichloro acetic acid 79-43-6</i>			
ACGIH	Time Weighted Average (TWA):	0.5 ppm	
	Skin designation:		Can be absorbed through the skin.

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

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	No strong odor known.

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Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
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	No information available.
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	No information available.
Oxidizing properties	No information available.

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

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

Possibility of hazardous reactions

Dangerous reactions are not expected handling the product according to its intended use.

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Conditions to avoid

no information available

Incompatible materials

no information available

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

Target Organs

Eyes

Skin

cardiovascular system

Central nervous system

CMR effects

Carcinogenicity:

Evidence of a carcinogenic effect.

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	Group 2B: Possibly carcinogenic to humans	
	dichlormethane	75-09-2
	Dichloro acetic acid	79-43-6
OSHA	dichlormethane	75-09-2
	Anticipated carcinogen.	
NTP	dichlormethane	75-09-2
	Confirmed animal carcinogen with unknown relevance to humans.	
ACGIH	dichlormethane	75-09-2
	Dichloro acetic acid	79-43-6

Further information

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Handle in accordance with good industrial hygiene and safety practice.

Ingredients

dichlormethane

Acute oral toxicity

LD50 rat: 1,600 mg/kg (RTECS)

LDLO human: 357 mg/kg (RTECS)

Acute inhalation toxicity

LC50 rat: 88 mg/l; 30 min (IUCLID)

Acute dermal toxicity

LD50 rat: > 2,000 mg/kg

OECD Test Guideline 402

Skin irritation

rabbit

Result: Irritations

(IUCLID)

Eye irritation

rabbit

Result: slight irritation

(IUCLID)

Sensitization

Patch test:

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vitro

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(National Toxicology Program)

Ames test

Salmonella typhimurium

Result: positive

Method: OECD Test Guideline 471

Dichloro acetic acid

Acute oral toxicity

LD50 rat: 2,820 mg/kg (RTECS)

Acute dermal toxicity

LD50 rabbit: 801 mg/kg (RTECS) (Regulation (EC) No 1272/2008, Annex VI)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: positive

(National Toxicology Program)

SECTION 12. Ecological information

Ecotoxicity

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Product number	BI0833	Version 1.0
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No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Ingredients

dichlormethane

Toxicity to fish

LC50 Pimephales promelas (fathead minnow): 193 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC0 Protozoa: > 16,000 mg/l (Lit.)

EC50 Daphnia magna (Water flea): 1,682 mg/l; 48 h
DIN 38412

Toxicity to algae

IC50 Pseudokirchneriella subcapitata (green algae): > 660 mg/l; 96 h (IUCLID)

Toxicity to bacteria

EC50 Photobacterium phosphoreum: 2.88 mg/l; 15 min (IUCLID)

Biodegradability

5 - 26 %; 28 d

OECD Test Guideline 301C

After adaption biodegradable.

Not readily biodegradable.

Distribution among environmental compartments

Adsorption/Soil

log Koc: 1.00

(experimental)

Mobile in soils (Lit.)

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

Henry constant

329 Pa·m³/mol

Method: (experimental)

(Lit.) Distribution preferentially in air.

Dichloro acetic acid

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 106 mg/l; 24 h (ECOTOX Database)

Toxicity to bacteria

EC0 Bacteria: 100 - 1,000 mg/l (External MSDS)

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Biodegradability

98 %; 14 d
OECD Test Guideline 301C
Readily biodegradable.

Partition coefficient: n-octanol/water

log Pow: 0.92
(experimental)
(Lit.)

Bioaccumulation is not expected.

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.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 2922
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (CONT. DICHLORMETHANE, DICHLOROACETIC ACID)
Class	8 (6.1)
Packing group	II
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 2922
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (CONT. DICHLORMETHANE, DICHLOROACETIC ACID)
Class	8 (6.1)
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 2922
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (CONT. DICHLORMETHANE, DICHLOROACETIC ACID)
Class	8 (6.1)
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes

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EmS

F-A S-B

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Carcinogen

Target organ effects

Harmful if swallowed.

Toxic by skin absorption

Corrosive to skin

Corrosive to eyes

Corrosive by inhalation.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients

dichloromethane

75-09-2

97.5 %

SARA 302

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

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

dichloromethane

Pennsylvania Right To Know

Ingredients

dichloromethane

New Jersey Right To Know

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Ingredients

dichlormethane

Dichloro acetic acid

California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ingredients

Dichloro acetic acid

California Prop 65 Components

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

Ingredients

dichlormethane

Dichloro acetic acid

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

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.

Date of issue: 06/25/2014

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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