

SAFETY DATA SHEET

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

Revision Date 06/21/2017

Version 1.4

SECTION 1. Identification

Product identifier

Product number	DX0835
Product name	Dichloromethane GR ACS
Synonyms	DCM
CAS-No.	75-09-2

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) 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
Carcinogenicity, Category 2, H351
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336
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.

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H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

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.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.
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.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	CH ₂ Cl ₂	CH ₂ Cl ₂ (Hill)
Synonyms	DCM	
Molar mass	84.93 g/mol	

Hazardous ingredients

Chemical name (Concentration)

CAS-No.

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

75-09-2

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.

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Eye contact

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

Ingestion

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately. Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Drowsiness, somnolence, Dizziness, inebriation, Nausea, Vomiting, CNS disorders, Unconsciousness, Cough, depressed respiration, Shortness of breath, respiratory paralysis

Risk of corneal clouding.

The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver, kidneys.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

Fire may cause evolution of:

Hydrogen chloride gas, Phosgene

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:

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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. Chemisorb®). 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. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Protected from light.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>dichloromethane 75-09-2</i>			
ACGIH	Time Weighted Average (TWA):	50 ppm	

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

splash contact:

Glove material:	Viton (R)
Glove thickness:	0.70 mm
Break through time:	> 120 min

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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 890 Vitoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 AX (EN 371)

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
Color	colorless
Odor	sweet
Odor Threshold	24.9 - 611.7 ppm
pH	at 68 °F (20 °C) neutral
Melting point	-139 °F (-95 °C)
Boiling point/boiling range	104 °F (40 °C) at 1,013 hPa
Flash point	does not flash
Evaporation rate	1.9
Flammability (solid, gas)	Not applicable
Lower explosion limit	13 %(V)
Upper explosion limit	22 %(V)
Vapor pressure	475 hPa at 68 °F (20 °C)
Relative vapor density	2.93

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Density	1.33 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	20 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: 1.25 (experimental) (Lit.) Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	> 248 °F (> 120 °C)
Viscosity, dynamic	0.43 mPa.s at 68 °F (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	1121 °F (605 °C) DIN 51794

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

Sensitivity to light

Stabilizer

2-methyl-2-butene

Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, nitrogen oxides, nitrogen dioxide, Potassium, sodium azide, perchloric acid, Nitric acid, aluminum chloride, Amines, Oxygen, (as liquefied gas), powdered aluminum, sodium

aromatic hydrocarbons, with

powdered aluminum

Exothermic reaction with:

Alkaline earth metals, Powdered metals, amides, alcoholates, nonmetallic oxides, potassium tert-butanolate, sodium amide

Conditions to avoid

no information available

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Incompatible materials

rubber, various plastics, Light metals, Metals, Mild steel

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Inhalation, Eye contact, Skin contact

Target Organs

Eyes

Skin

cardiovascular system

Central nervous system

Acute oral toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 401

Symptoms: Nausea, Vomiting, Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

Acute inhalation toxicity

LC50 Rat: 60.14 mg/l/17250 ppm; 4 h ; vapor

(Lit.)

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402

Skin irritation

Rabbit

Result: Irritations

OECD Test Guideline 404

Causes skin irritation.

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation

Rabbit

Result: Eye irritation

(ECHA)

Causes serious eye irritation.

Risk of corneal clouding.

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Sensitization

Local lymph node assay (LLNA) Mouse
Result: negative
Method: OECD Test Guideline 429

Genotoxicity in vivo

In vivo micronucleus test
Mouse
Result: negative
Method: OECD Test Guideline 474

Genotoxicity in vitro

Mutagenicity (mammal cell test): chromosome aberration.
Result: positive
Method: OECD Test Guideline 473

Ames test
Salmonella typhimurium
Result: positive
Method: OECD Test Guideline 471

CMR effects

Carcinogenicity: Suspected of causing cancer.

Specific target organ systemic toxicity - single exposure

May cause drowsiness or dizziness.
Target Organs: Central nervous system

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 2A: Probably carcinogenic to humans dichloromethane	75-09-2
OSHA	dichloromethane	75-09-2
NTP	Anticipated carcinogen. dichloromethane	75-09-2
ACGIH	Confirmed animal carcinogen with unknown relevance to humans. dichloromethane	75-09-2

Further information

Systemic effects:
After absorption of large quantities:
CNS disorders, Drowsiness, Dizziness, drop in blood pressure, Cardiac irregularities, depressed respiration, inebriation, Unconsciousness, narcosis, respiratory paralysis

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Swallowing may result in damage to the following:

Liver, Kidney

The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver, kidneys.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

flow-through test LC50 Pimephales promelas (fathead minnow): 193 mg/l; 96 h

Analytical monitoring: yes

US-EPA

Toxicity to daphnia and other aquatic invertebrates

static test EC50 Daphnia magna (Water flea): 27 mg/l; 48 h

US-EPA

Toxicity to algae

static test EbC50 Pseudokirchneriella subcapitata (green algae): > 662 mg/l; 96 h

OECD Test Guideline 201

Toxicity to bacteria

static test EC50 activated sludge: 2,590 mg/l; 40 min

Analytical monitoring: yes

OECD Test Guideline 209

Toxicity to fish (Chronic toxicity)

flow-through test NOEC Pimephales promelas (fathead minnow): 83 mg/l; 28 d

Analytical monitoring: yes(ECHA)

Persistence and degradability

Biodegradability

68 %; 28 d; aerobic

OECD Test Guideline 301D

Readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 1.25

(experimental)

(Lit.) Bioaccumulation is not expected.

Mobility in soil

Distribution among environmental compartments

Adsorption/Soil

log Koc: 1.00

(experimental)

Mobile in soils (Lit.)

Other adverse effects

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Henry constant

329 Pa*m³/mol

Method: (experimental)

(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.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1593
Proper shipping name	DICHLOROMETHANE
Class	6.1
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1593
Proper shipping name	DICHLOROMETHANE
Class	6.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1593
Proper shipping name	DICHLOROMETHANE
Class	6.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-A

SECTION 15. Regulatory information

United States of America

SARA 313

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

Ingredients

dichloromethane	75-09-2	99.998 %
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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.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Ingredients

dichlormethane

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

dichlormethane

Pennsylvania Right To Know

Ingredients

dichlormethane

New Jersey Right To Know

Ingredients

dichlormethane

California Prop 65 Components

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

Ingredients

dichlormethane

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.

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Labeling

Hazard pictograms



Signal Word

Warning

Hazard Statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

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.

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

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

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
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.

Revision Date 06/21/2017

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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