



# SAFETY DATA SHEET

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

Revision Date 09/24/2014

Version 1.1

## SECTION 1. Identification

### Product identifier

Product number	DX0800
Product name	1,2-Dichloroethane GR ACS
CAS-No.	107-06-2

### 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)
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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

Flammable liquid, Category 2, H225  
Acute toxicity, Category 4, Oral, H302  
Acute toxicity, Category 3, Inhalation, H331  
Skin irritation, Category 2, H315  
Eye irritation, Category 2A, H319  
Carcinogenicity, Category 1B, H350  
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system, H335

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

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### *Hazard Statements*

H350 May cause cancer.  
H225 Highly flammable liquid and vapor.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H335 May cause respiratory irritation.

### *Precautionary Statements*

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.  
P311 Call a POISON CENTER or doctor/ physician.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
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.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### **Other hazards**

None known.

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### **SECTION 3. Composition/information on ingredients**

Formula	$\text{ClCH}_2\text{CH}_2\text{Cl}$	$\text{C}_2\text{H}_4\text{Cl}_2$ (Hill)
Molar mass	98.96 g/mol	

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### Hazardous ingredients

*Chemical Name ( Concentration)*

CAS-No.

*1,2-Dichloroethane ( >= 90 % - <= 100 % )*

107-06-2

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

*Inhalation*

After inhalation: fresh air. Get medical attention.

*Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing. 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). Do not give milk, alcoholic beverages or castor oil. Consult a physician.

Never give anything by mouth to an unconscious person.

### Most important symptoms and effects, both acute and delayed

irritant effects, Cough, respiratory paralysis, Shortness of breath, Dizziness, Headache, Tiredness, CNS disorders, Coma, death

### Indication of any immediate medical attention and special treatment needed

Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

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## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

Water, Foam, Dry powder, Carbon dioxide (CO<sub>2</sub>)

*Unsuitable extinguishing media*

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

### Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

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

Fire may cause evolution of:

Hydrogen chloride gas

### Advice for firefighters

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### *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. Remove container from danger zone and cool with water.

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## 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. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains. Risk of explosion.

### **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.

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## SECTION 7. Handling and storage

### **Precautions for safe handling**

Avoid generation of vapors/aerosols.

Observe label precautions.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### **Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at room temperature.

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>1,2-Dichloroethane 107-06-2</i>			
ACGIH	Time Weighted Average (TWA):	10 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	1 ppm 4 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	2 ppm 8 mg/m <sup>3</sup>	
Z1A	Short Term Exposure Limit (STEL):	2 ppm 8 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	1 ppm 4 mg/m <sup>3</sup>	
OSHA/Z2	Time Weighted Average (TWA):	50 ppm	
	Ceiling Limit Value:	100 ppm	
	Maximum concentration:	200 ppm	Ceiling Limit Value 5 minutes in any 3 hours

**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:*

Flame retardant antistatic 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.

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**SECTION 9. Physical and chemical properties**

Physical state	liquid
Color	colorless
Odor	of solvents
Odor Threshold	No information available.
pH	No information available.
Melting point	-35.5 °C
Boiling point/boiling range	182.3 - 183.4 °F ( 83.5 - 84.1 °C) at 1,013 hPa
Flash point	55 °F ( 13 °C) Method: c.c.
Evaporation rate	4.1
Flammability (solid, gas)	No information available.
Lower explosion limit	6 %(V)
Upper explosion limit	11.4 %(V)
Vapor pressure	87 hPa at 68 °F ( 20 °C)
Relative vapor density	3.4
Density	1.25 g/cm <sup>3</sup> at 68 °F ( 20 °C)
Relative density	No information available.
Water solubility	8.7 g/l at 68 °F ( 20 °C)
Partition coefficient: n-octanol/water	log Pow: 1.45 OECD Test Guideline 107 Bioaccumulation is not expected.
Autoignition temperature	No information available.
Decomposition temperature	No information available.

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Viscosity, dynamic	0.82 - 0.84 mPa.s at 68 °F ( 20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	774.7 - 824 °F ( 412.6 - 440 °C) Method: DIN 51794
Saturated vapor concentration	350 g/m <sup>3</sup> at 68 °F ( 20 °C)

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## SECTION 10. Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

Sensitivity to light

### Possibility of hazardous reactions

Exothermic reaction with:

Alkaline earth metals, alkali amides, Nitric acid, nitrogen oxides, Oxidizing agents, Chlorine, powdered magnesium, Zinc

Risk of explosion with:

Alkali metals, powdered aluminum, Powdered metals, Potassium, nitrogen dioxide

### Conditions to avoid

Warming.

Exposure to light.

### Incompatible materials

various plastics, Light metals, Iron

### Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Kidneys

Liver

Central nervous system

cardiovascular system

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### *Acute oral toxicity*

LD50 Rat: 670 mg/kg (RTECS)

absorption

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

### *Acute inhalation toxicity*

LC50 Rat: 7.2 mg/l; 4 h (RTECS)

Irritating to respiratory system.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

### *Acute dermal toxicity*

LD50 Rabbit: 2,800 mg/kg  
(RTECS)

absorption

### *Skin irritation*

Rabbit

Result: slight irritation  
(RTECS)

(Regulation (EC) No 1272/2008, Annex VI)

Causes skin irritation.

### *Eye irritation*

Rabbit

Result: Severe irritations  
(RTECS)

Causes serious eye irritation.

### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: positive

(National Toxicology Program)

### *CMR effects*

Carcinogenicity:

May cause cancer.

### *Specific target organ systemic toxicity - single exposure*

May cause respiratory irritation.

### *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



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	1,2-Dichloroethane	107-06-2
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
NTP	Anticipated carcinogen.	
	1,2-Dichloroethane	107-06-2
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

Systemic effects:

CNS disorders, Dizziness, Headache, Tiredness, Coma, respiratory paralysis, death

Absorption may result in damage of the following:

Liver, Kidney

This substance should be handled with particular care.

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## SECTION 12. Ecological information

### Ecotoxicity

*Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 116 mg/l; 96 h (in soft water) (IUCLID)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 155 mg/l; 48 h (in soft water) (IUCLID)

*Toxicity to algae*

IC5 Desmodesmus subspicatus (green algae): 412 mg/l; 7 d (IUCLID)

*Toxicity to bacteria*

EC5 Pseudomonas putida: 135 mg/l; 16 h (IUCLID)

### Persistence and degradability

No information available.

### Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 1.45

OECD Test Guideline 107

Bioaccumulation is not expected.

### Mobility in soil

*Distribution among environmental compartments*

Adsorption/Soil

log Koc: 1.58

(experimental)

Mobile in soils

(Lit.)

### Other adverse effects

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*Henry constant*

149 Pa\*m<sup>3</sup>/mol

Method: (experimental)

(IUCLID) Distribution preferentially in air.

*Additional ecological information*

Discharge into the environment must be avoided.

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**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.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number UN 1184  
Proper shipping name ETHYLENE DICHLORIDE  
Class 3 ( 6.1)  
Packing group II  
Environmentally hazardous --

**Air transport (IATA)**

UN number UN 1184  
Proper shipping name ETHYLENE DICHLORIDE  
Class 3 ( 6.1)  
Packing group II  
Environmentally hazardous --  
Special precautions for user no

**Sea transport (IMDG)**

UN number UN 1184  
Proper shipping name ETHYLENE DICHLORIDE  
Class 3 ( 6.1)  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-E S-D

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**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:

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## *Ingredients*

1,2-Dichloroethane 107-06-2 100 %

## **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*

1,2-Dichloroethane

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

### *Ingredients*

1,2-Dichloroethane

## **DEA List I**

Not listed

## **DEA List II**

Not listed

## **US State Regulations**

### **Massachusetts Right To Know**

#### *Ingredients*

1,2-Dichloroethane

### **Pennsylvania Right To Know**

#### *Ingredients*

1,2-Dichloroethane

### **New Jersey Right To Know**

#### *Ingredients*

1,2-Dichloroethane

### **California Prop 65 Components**

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

#### *Ingredients*

1,2-Dichloroethane

## **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.

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## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

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

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause 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](http://www.wikipedia.org).

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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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