



# SAFETY DATA SHEET

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

Revision Date 08/04/2015

Version 1.4

## SECTION 1. Identification

### Product identifier

Product number	102930
Product name	1,2-Dichlorobenzene for extraction analysis EMSURE®
CAS-No.	95-50-1

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

Identified uses	Reagent for analysis, Chemical production
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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 4, H227  
Acute toxicity, Category 4, Oral, H302  
Skin irritation, Category 2, H315  
Eye irritation, Category 2A, H319  
Skin sensitization, Category 1, H317  
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*  
Warning

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### *Hazard Statements*

H227 Combustible liquid.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

### *Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
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.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
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.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P333 + P313 If skin irritation or rash 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	1,2-(Cl) <sub>2</sub> C <sub>6</sub> H <sub>4</sub>	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> (Hill)
Molar mass	147 g/mol	

### **Hazardous ingredients**

#### *Chemical Name (Concentration)*

CAS-No.

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

95-50-1

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.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

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

#### *Ingestion*

After swallowing: make victim drink water (two glasses at most ), avoid vomiting (risk of aspiration!). Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

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

irritant effects, Cough, Shortness of breath, Dizziness, narcosis, Headache, CNS disorders

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

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

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), 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.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

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

Fire may cause evolution of:

Hydrogen chloride gas, Phosgene, dioxin

### 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.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

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Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. 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 empty into 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

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers*

Do not use light-weight-metal containers.

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at +15°C to +25°C (+59°F to +77°F).

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>1,2-Dichlorobenzene 95-50-1</i>			
ACGIH	Time Weighted Average (TWA):	25 ppm	
	Short Term Exposure Limit (STEL):	50 ppm	
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	50 ppm 300 mg/m³	
	Ceiling Limit Value:	50 ppm 300 mg/m³	
OSHA_TRANS	Ceiling Limit Value:	50 ppm 300 mg/m³	
Z1A	Ceiling Limit Value:	50 ppm 300 mg/m³	

### Engineering measures

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

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## 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:	Viton (R)
Glove thickness:	0.70 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.40 mm
Break through time:	> 30 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 890 Vitoject® (full contact), KCL 730 Camatril® - Velours (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](http://www.kcl.de)).

### *Other protective equipment:*

protective clothing

### *Respiratory protection*

required when vapors/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapors of organic compounds

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	characteristic
Odor Threshold	No information available.
pH	No information available.

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Melting point	-17 °C
Boiling point/boiling range	180 °C (180 °C) at 1,013 hPa
Flash point	66 °C (66 °C) Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2.2 %(V)
Upper explosion limit	12 %(V)
Vapor pressure	1.33 hPa at 20 °C (20 °C)
Relative vapor density	5.1
Density	1.31 g/cm <sup>3</sup> at 20 °C (20 °C)
Relative density	No information available.
Water solubility	0.13 g/l at 20 °C (20 °C)
Partition coefficient: n-octanol/water	log Pow: 3.43 (25 °C) OECD Test Guideline 123 Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	1.32 mPa.s at 20 °C (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	640 °C (640 °C)

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## SECTION 10. Stability and reactivity

### Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

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### Chemical stability

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

### Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents, Alkali metals, Alkaline earth metals

Aluminum, Light metals, in the presence of:

Water, Acids

### Conditions to avoid

Strong heating.

### Incompatible materials

Aluminum, rubber, various plastics

### 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

Respiratory system

Liver

Kidneys

#### *Acute oral toxicity*

LD50 Rat: 500 mg/kg (RTECS)

absorption

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

#### *Acute inhalation toxicity*

Irritating to respiratory system.

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

#### *Acute dermal toxicity*

LD50 Rabbit: > 10,000 mg/kg  
(RTECS)

absorption

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## *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*

Causes serious eye irritation.

## *Sensitization*

Sensitization test: Mouse

Result: positive

Method: OECD Test Guideline 429

May cause an allergic skin reaction.

## *Repeated dose toxicity*

Subchronic toxicity

## *Genotoxicity in vivo*

In vivo micronucleus test

Mouse

Result: negative

Method: OECD Test Guideline 474

## *Genotoxicity in vitro*

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

## *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

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 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

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen



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ACGIH by NTP.  
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

After absorption of large quantities:

CNS disorders, psychoses, Headache, Dizziness, narcosis

After long-term exposure to the chemical:

Toxic effect on:

Liver, Kidney

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout): 1.52 mg/l; 96 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 *Ceriodaphnia dubia* (water flea): 0.66 mg/l; 48 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to algae*

Growth rate EC50 *Pseudokirchneriella subcapitata* (green algae): 2.2 mg/l; 96 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to bacteria*

EC5 *Pseudomonas putida*: 15 mg/l; 16 h (IUCLID) (maximum permissible toxic concentration)

#### *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test NOEC *Daphnia magna* (Water flea): 0.37 mg/l; 14 d

OECD Test Guideline 211

### Persistence and degradability

#### *Biodegradability*

0 %; 28 d; aerobic Biochemical oxygen demand

OECD Test Guideline 301C

Not readily biodegradable.

58 %; 20 d

OECD Test Guideline 301D

Not readily biodegradable.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 3.43 (25 °C)

OECD Test Guideline 123

Bioaccumulation is not expected. (Lit.)

### Mobility in soil

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## *Distribution among environmental compartments*

Adsorption/Soil

log K<sub>oc</sub>: 2.58

(experimental)

Moderately mobile in soils

(Lit.)

## **Other adverse effects**

*Henry constant*

194 Pa·m<sup>3</sup>/mol

Method: (experimental)

Distribution preferentially in air. (Lit.)

## **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 1591  
Proper shipping name O-DICHLOROBENZENE  
Class 6.1  
Packing group III  
Environmentally hazardous --

### **Air transport (IATA)**

UN number UN 1591  
Proper shipping name O-DICHLOROBENZENE  
Class 6.1  
Packing group III  
Environmentally hazardous --  
Special precautions for user no

### **Sea transport (IMDG)**

UN number UN 1591  
Proper shipping name O-DICHLOROBENZENE  
Class 6.1  
Packing group III  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-A S-A

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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:

##### *Ingredients*

1,2-Dichlorobenzene	95-50-1	100 %
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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

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

##### *Ingredients*

1,2-Dichlorobenzene

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

##### *Ingredients*

1,2-Dichlorobenzene

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

##### *Ingredients*

1,2-Dichlorobenzene

#### DEA List I

Not listed

#### DEA List II

Not listed

### US State Regulations

#### Massachusetts Right To Know

##### *Ingredients*

1,2-Dichlorobenzene

#### Pennsylvania Right To Know

##### *Ingredients*

1,2-Dichlorobenzene

#### New Jersey Right To Know

##### *Ingredients*

1,2-Dichlorobenzene

#### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

### 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.

### Labeling

#### *Hazard pictograms*



#### *Signal Word*

Warning

#### *Hazard Statements*

H227 Combustible liquid.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

#### *Precautionary Statements*

##### Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves.

##### 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.

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

H227

Combustible liquid.

H302

Harmful if swallowed.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H335

May cause respiratory 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](http://www.wikipedia.org).

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Revision Date 08/04/2015

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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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