1,2-DICHLOROETHANE

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
1,2-DICHLOROETHANE

OTHER NAMES

C2-H4-Cl2, ClCH2CH2Cl, "1, 2-dichloroethane", "1, 2-dichloroethane", dichloroemulsion, "ethane dichloride", "dichloro-1, 2-ethane", "dichloro-1, 2-ethane", "dutch liquid", "1, 2-ethylene dichloride", "1, 2-ethylene dichloride", "dutch oil", "ethylene chloride", "glycol dichloride", sym-dichloroethane, EDC, Brocide, "1, 2-bichloroethane", "1, 2 -bichloroethane"

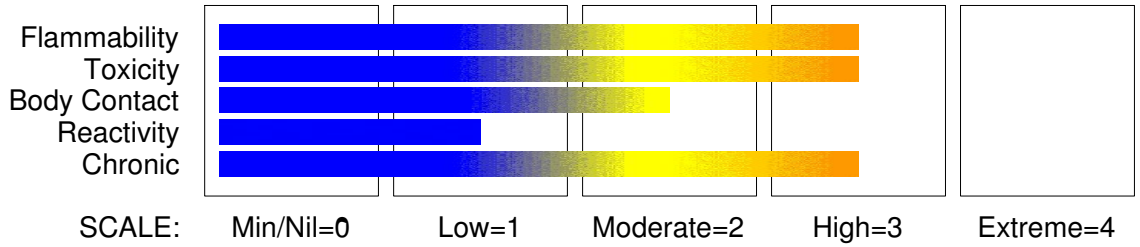
PROPER SHIPPING NAME
ETHYLENE DICHLORIDE

PRODUCT USE
Used as a chemical intermediate in the manufacture of vinyl chloride, methyl chloroform, trichloroethylene, perchloroethylene and ethylene amines; as an antiknock additive in leaded fuels and used in the manufacture of paints, coatings and adhesives.
Also used for the manufacture of pharmaceutical products, coloured film, acetyl cellulose, pesticides and fumigants and in the extraction of copper from copper ores.
Solvent for fats, oils, waxes, gums, resins and particularly for rubber.

SUPPLIER
Company: S D FINE- CHEM LIMITED
Address:
315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,
MUMBAI- 400030.INDIA.
technical@sdfine.com
Telephone: 91- 22- 24959898
Telephone: 91- 22- 24959899
Fax: 91- 22- 24937232

HAZARD RATINGS

continued...



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Inhalation) Category 3
Acute Toxicity (Oral) Category 4
Carcinogen Category 1B
Eye Irritation Category 2A
Flammable Liquid Category 2
Respiratory Irritation Category 3
Skin Corrosion/Irritation Category 2

EMERGENCY OVERVIEW

HAZARD

DANGER
Determined by using GHS criteria:
H335 H225 H331 H302 H315 H319 H350
May cause respiratory irritation
Highly flammable liquid and vapour
Toxic if inhaled
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause CANCER

PRECAUTIONARY STATEMENTS

Prevention

Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Obtain special instructions before use.
Ground/bond container and receiving equipment.
Do not breathe dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well ventilated area.
Wash thoroughly after handling.

continued...

Avoid breathing dust/fume/gas/mist/vapours/spray.
Keep away from heat/sparks/open flame - No smoking.
Wear protective gloves and eye/face protection.
Use personal protective equipment as required.
Keep container tightly closed.
Do not handle until all safety precautions have been read and understood.
Use only non-sparking tools.
Use explosion-proof electrical/ventilating/lighting/equipment
Take precautionary measures against static discharge

Response

If exposed or concerned: Get medical attention advice.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Wear eye/face protection.
If eye irritation persists, get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation occurs, seek medical advice/attention.
If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment: refer to Label or MSDS.
In case of fire, use dry agent for extinction.
IF ON SKIN: Gently wash with plenty of soap and water.
Immediately call a POISON CENTER or doctor/physician.
Remove/Take off immediately all contaminated clothing
Wash/Decontaminate removed clothing before reuse.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ethylene dichloride	107-06-2	>95

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.
· If swallowed do NOT induce vomiting.
· If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
· Observe the patient carefully.
· Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
· Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

continued...

· Seek medical advice.
Avoid giving milk or oils.
Avoid giving alcohol.

EYE

If this product comes in contact with the eyes:
· Immediately hold eyelids apart and flush the eye continuously with running water.
· Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
· Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
· Transport to hospital or doctor without delay.
· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:
· Immediately flush body and clothes with large amounts of water, using safety shower if available.
· Quickly remove all contaminated clothing, including footwear.
· Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
· Transport to hospital, or doctor.

INHALED

· If fumes or combustion products are inhaled remove from contaminated area.
· Lay patient down. Keep warm and rested.
· Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
· Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
· Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

Treat symptomatically.
DO NOT administer sympathomimetic drugs as they may cause ventricular arrhythmias.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.
Foam.
Dry agent.
Dry chemical powder.
Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.
· May be violently or explosively reactive.
· Wear breathing apparatus plus protective gloves.
· Prevent, by any means available, spillage from entering drains or water courses.
· Consider evacuation (or protect in place).

continued...

Cool fire exposed containers with water spray from a protected location.
DO NOT approach containers suspected to be hot.
If safe to do so, remove containers from path of fire.
Avoid spraying water onto liquid pools.
Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD
Flammable liquid.
Dangerous hazard when exposed to heat, flame and oxidisers.
Severe vapour explosion hazard, when exposed to flame or spark.
May form an explosive mixture with air.
Reacts vigorously with oxidising agents.
Heating may cause expansion or decomposition leading to violent rupture of containers.
Decomposes on heating and produces toxic fumes of:.
hydrogen chloride, phosgene, carbon monoxide (CO) and carbon dioxide (CO_2).

FIRE INCOMPATIBILITY
Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Personal Protective Equipment
Breathing apparatus.
Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS
Clear area of personnel.
Environmental hazard - contain spillage.
Avoid breathing vapours and contact with skin and eyes.
Wear protective clothing, impervious gloves and safety glasses.
Shut off all possible sources of ignition and increase ventilation.
Wipe up and absorb small quantities with vermiculite or other absorbent material.
Place in suitable containers for disposal.
Wash area down with large quantity of water and prevent runoff into drains.

MAJOR SPILLS
Clear area of personnel and move upwind.
Pollutant - contain spillage.
Alert Fire Brigade and tell them location and nature of hazard.
· May be violently or explosively reactive.
· Wear breathing apparatus plus protective gloves.
· Prevent, by any means available, spillage from entering drains or water courses.
· Consider evacuation (or protect in place).
No smoking, naked lights or ignition sources. Increase ventilation.
Stop leak if safe to do so.
Contain spill with sand, earth or vermiculite.
Use only spark-free shovels and explosion proof equipment.
Collect recoverable product into labelled containers for recycling.
Absorb remaining product with sand, earth or vermiculite.
Collect residues and seal in labelled drums for disposal.

continued...

After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:
ethylene dichloride 300 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:
ethylene dichloride 200 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:
ethylene dichloride 50 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:
ethylene dichloride 50 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

X	X	X	X	X	+

+: May be stored together
O: May be stored together with specific preventions
X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Use good occupational work practice. Observe manufacturer's storing and handling recommendations.
Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Avoid smoking, naked lights, heat or ignition sources.
Vapour may travel a considerable distance to source of ignition.

continued...

and secure containers when dispensing or pouring product.
Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.
Decant in a well-ventilated area or under an exhaust hood.
Avoid contact with incompatible materials.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.
· Check that containers are clearly labelled.
Glass container.
Plastic containers may only be used if approved for flammable liquids.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.
Avoid strong bases.
Avoid active metals such as sodium, potassium, lithium, magnesium, aluminium and zinc and strong alkaline solutions.
Avoid contact with nitrogen tetroxide (nitrogen dioxide), dimethylamino-propylamine or liquid ammonia.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.
Store in original containers.
Keep containers securely sealed.
No smoking, naked lights, heat or ignition sources.
Store in a cool, dry place.
Store in a well-ventilated area.
Store away from incompatible materials.
Isolate from NON-pesticides.
Store under cover in a fenced compound or in a fireproof chemical store. Small quantities may be stored in buildings separated by fire proof walls.
DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
Protect containers against physical damage.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

• ethylene dichloride: CAS:107- 06- 2 CAS:52399- 93- 6

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
ethylene dichloride		50

continued...

ODOUR SAFETY FACTOR (OSF)

OSF=0.057 (ETHYLENE DICHLORIDE)
Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.
Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.
The Odour Safety Factor (OSF) is defined as:
OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm
Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

.

MATERIAL DATA

Odour Threshold Value: 6-111 ppm (detection), 41-185 ppm (recognition)
Exposure at or below the TLV-TWA is thought to minimise the potential for hepatotoxic or narcotic effects. The NIOSH REL reflects a need to protect workers from the significant risk of gastrointestinal damage and cancer.
EDC is genotoxic and carcinogenic effects have been reported in two species following oral administration.
Eye irritation and corneal effects have been reported in humans exposed to the vapour. In humans adverse effects were reported in humans at 60-200 ppm with no significant effects at 10-37 ppm. The Australian ES is based on a 10-fold uncertainty factor of the no-observable-adverse-effect-level (NOAEL) of 10 ppm in long term animal studies and is 60 times lower than the lowest-observable-adverse-effect-level (LOAEL) seen in humans.
Notes of Toxicity:

Concentration	Clinical Effects
0.05 - 0.15 mg/l	Long term repeated exposure may produce neurological changes, anorexia, irritation of mucous membranes, liver and kidney impairment.
6 ppm	Odour detectable
356 mg/m3	Odour threshold in air
7 mg/l	Odour threshold in water
40 ppm	Impairment of CNS, irritability, increased morbidity including disease of liver and bile duct

continued...

10-200 ppm	Anorexia, dizziness, insomnia, vomiting, lachrymation, constipation, epigastric pain, tender liver on palpitation and elevated uribilogen concentration

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PERSONAL PROTECTION

EYE

· Chemical goggles.
· Full face shield.
· Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Neoprene gloves.
Impervious gloves.
Rubber boots.
PVC boots.
Safety footwear.

OTHER

· Overalls.
· PVC Apron.
· PVC protective suit may be required if exposure severe.
· Eyewash unit.
· Ensure there is ready access to a safety shower.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
" Forsberg Clothing Performance Index" .
The effect(s) of the following substance(s) are taken into account in the computer- generated selection: ethylene dichloride

Protective Material CPI *.

PE/EVAL/PE	A
TEFLON	A
VITON	A

continued...

PVA	A
BUTYL	C

A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	A- AUS	-
1000	50	-	A- AUS
5000	50	Airline *	-
5000	100	-	A- 2
10000	100	-	A- 3
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult
your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.
An approved self contained breathing apparatus (SCBA) may be required in some situations.
Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25- 0.5 m/s (50- 100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5- 1 m/s (100- 200 f/min.)

continued...

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1- 2.5 m/s (200- 500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless, oily liquid with a chloroform odour and a sweet taste.
Miscible with most common solvents and very slightly soluble in water.
Flammable and toxic.

PHYSICAL PROPERTIES

Liquid.
Does not mix with water.
Sinks in water.

Molecular Weight: 98.96	Boiling Range (°C): 83.5
Melting Range (°C): - 35.5	Specific Gravity (water=1): 1.2554
Solubility in water (g/L): Partly miscible	pH (as supplied): Not applicable
pH (1% solution): Not applicable.	Vapour Pressure (kPa): 11.1 @ 20C
Volatile Component (%vol): 100	Evaporation Rate: Not available
Relative Vapour Density (air=1): 3.4	Flash Point (°C): 13
Lower Explosive Limit (%): 6.2	Upper Explosive Limit (%): 16.0
Autoignition Temp (°C): 413	Decomposition Temp (°C): Not available
State: Liquid	Viscosity: Not available

continued...

log Kow (Prager 1995): 1.48
log Kow (Sangster 1997): 1.48
log Kow: 1.48

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of incompatible materials.
Stable under normal storage conditions.
Product is considered stable under normal handling conditions.
Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.
Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.
The material may produce severe irritation to the eye causing pronounced inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.
The liquid may produce skin discomfort following prolonged contact. Defatting and/or drying of the skin may lead to dermatitis.
Open cuts, abraded or irritated skin should not be exposed to this material.

continued...

Toxic effects may result from skin absorption.
The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED
Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

CHRONIC HEALTH EFFECTS
On the basis, primarily, of animal experiments, the material may be regarded as carcinogenic to humans. There is sufficient evidence to provide a strong presumption that human exposure to the material may result in cancer on the basis of:
- appropriate long-term animal studies
- other relevant information.

Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.
When administered by gavage ethylene dichloride increased the incidence of hepatocellular carcinomas in male mice, mammary gland adenocarcinomas and endometrial stroma neoplasms of the uterus in female mice and lung adenomas in mice of both sexes. In rats gavage increased the incidence of squamous cell carcinomas of the forestomach, subcutaneous fibromas, and haemangiosarcomas in male rats and mammary adenocarcinomas in female rats.

TOXICITY AND IRRITATION

TOXICITY	IRRITATION
Oral (human) LDLo: 286 mg/kg	Skin (rabbit): 625 mg - Mild
Oral (human) TDLo: 428 mg/kg	Skin (rabbit): 500 mg/24h - Mild
Oral (man) LDLo: 714 mg/kg	
Oral (rat) LD50: 670 mg/kg	
Inhalation (human) TCLo: 4000 ppm/1h	
Inhalation (rat) LC50: 1000 ppm/7h	

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002].

Section 12 - ECOLOGICAL INFORMATION

Fish LC50 (96hr.) (mg/l):	185
Daphnia magna EC50 (48hr.) (mg/l):	218
Algae IC50 (72hr.) (mg/l):	105- 710
BCF<100:	0.30 BLUEG
log Kow (Prager 1995):	1.48
log Kow (Sangster 1997):	1.48
BOD5:	0.002
COD:	1.025
ThOD:	0.97
Half- life Soil - High (hours):	4320
Half- life Soil - Low (hours):	2400
Half- life Air - High (hours):	2917

continued...

Half- life Air - Low (hours):	292
Half- life Surface water - High (hours):	4320
Half- life Surface water - Low (hours):	2400
Half- life Ground water - High (hours):	8640
Half- life Ground water - Low (hours):	2400
Aqueous biodegradation - Aerobic - High (hours):	4320
Aqueous biodegradation - Aerobic - Low (hours):	2400
Aqueous biodegradation - Anaerobic - High (hours):	17280
Aqueous biodegradation - Anaerobic - Low (hours):	9600
Photooxidation half- life air - High (hours):	2917
Photooxidation half- life air - Low (hours):	292
First order hydrolysis half- life (hours):	1.1 YR

Drinking Water Standards:
hydrocarbon total: 10 ug/l (UK max.).
log Kow: 1.48
Koc: 33-152
Half-life (hr) H2O surface water: 3.8-240
Henry's atm m^3 /mol: 9.77E-04
BOD 5 if unstated: 0.002,0%
COD: 1.025
ThOD: 0.97
BCF: 8
Log BCF: 0.3
Toxicity Fish: LC50(96)2340mg/L
Transported long ditances in the atmosphere; removed by photooxidation (half-life 1 month). In water removal is primarily by evaporation (half-life 10 days).
If released on land evaporates to air or percolates to ground water where it may persist for long periods.
Has low toxicity to fish and is not expected to bioconcentrate in food chain.
1,2-dichloroethane: 30 ug/l (WHO guideline)
Soil Guideline: Dutch criteria: 4 mg/kg (intervention)
Air Quality Standards: 0.7 mg/m^3 (for continuous exposure), averaging time 24 hours (WHO guideline)

Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.
Consult manufacturer for recycling options.
Consult State Land Waste Management Authority for disposal.
Bury or incinerate residue at an approved site.
Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

continued...

Labels Required: FLAMMABLE LIQUID,TOXIC
HAZCHEM: 2YE

UNDG:

Dangerous Goods Class:	3	Subrisk:	6.1
UN Number:	1184	Packing Group:	II

Shipping Name:ETHYLENE DICHLORIDE

Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	6.1
UN/ID Number:	1184	Packing Group:	II
ERG Code:	3P		

Shipping name:ETHYLENE DICHLORIDE

Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	6.1
UN Number:	1184	Packing Group:	II
EMS Number:	F- E, S- D		

Shipping name:ETHYLENE DICHLORIDE

Section 15 - REGULATORY INFORMATION

REGULATIONS

ethylene dichloride (CAS: 107-06-2) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Agency for Research on Cancer (IARC) Carcinogens
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals
United Nations List of Prior Informed Consent Chemicals
WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established
WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water

No data available for ethylene dichloride as CAS: 52399-93-6.

Section 16 - OTHER INFORMATION

continued...

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
ethylene dichloride	107- 06- 2, 52399- 93- 6

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 24-Jun-2017