SAFETY DATA SHEET
DICHLOROMETHANE

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name DICHLOROMETHANE

Product number 395

Synonyms; trade names METHYLENE CHLORIDE, DCM, METHYLENE CHLORIDE E100, METHYLENE CHLORIDE A4 A20 A50, METHOKLONE GR, METHYLENE CHLORIDE E1500, METHYLENE CHLORIDE E2000, METHYLENE CHLORIDE A20, METHYLENE CHLORIDE A50

REACH registration number 01-2119480404-41-XXXX

CAS number 75-09-2

EU index number 602-004-00-3

EC number 200-838-9

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

Identified uses Industrial Solvent Process Additive Chemical Intermediate Paint. Heat Carrier, Additive for Agrochemicals Adhesive. Sealant. Surface coating Laboratory reagent. For further information, see attached Exposure Scenario.

1.3. Details of the supplier of the safety data sheet

Supplier

Darrant Distribution LTD
Unit 1 Witham Point
Wavell Drive
Lincoln
LN3 4PL
+44 1522 533244
sales@darrantch
emicals.com

1.4. Emergency telephone number

Emergency telephone 01522 533244

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Carc. 2 - H351 STOT SE 3 - H336

Environmental hazards Not Classified

2.2. Label elements

EC number 200-838-9

DICHLOROMETHANE

Pictogram


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	P201 Obtain special instructions before use. P261 Avoid breathing vapour/ spray. P302+P352 IF ON SKIN: Wash with plenty of 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. P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	DICHLOROMETHANE
REACH registration number	01-2119480404-41-XXXX
EU index number	602-004-00-3
CAS number	75-09-2
EC number	200-838-9
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. For breathing difficulties, oxygen may be necessary. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	Irritation of nose, throat and airway. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression. Inhalation of vapour or mist may cause lung oedema.

DICHLOROMETHANE

Ingestion	Central nervous system depression. May cause irritation. Symptoms following overexposure may include the following: Stomach pain. Nausea, vomiting. Diarrhoea.
Skin contact	Skin irritation. Prolonged contact may cause redness, irritation and dry skin.
Eye contact	Irritation of eyes and mucous membranes. May cause severe eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Maintain adequate ventilation and oxygenation of the patient. Treat with 100% oxygen. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Carboxyhemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemia. Skin contact may aggravate preexisting dermatitis.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Hydrogen chloride (HCl). Phosgene ($COCl_2$). Oxides of the following substances: Carbon. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.
Hazardous combustion products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of spray mist and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions	Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

DICHLOROMETHANE

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid inhalation of vapours and spray/mists. Avoid contact with skin and eyes. Provide adequate ventilation. Vapours may accumulate on the floor and in low-lying areas. Do not use in confined spaces without adequate ventilation and/or respirator. Avoid heat, flames and other sources of ignition. Storage tanks and other containers must be earthed.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Unsuitable containers: copper, zinc, aluminium, copper alloy, zinc alloy, aluminium alloy. Store in tightly-closed, original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 100 ppm 350 mg/m³
Short-term exposure limit (15-minute): WEL 300 ppm 1060 mg/m³
Sk

WEL = Workplace Exposure Limit
Sk = Can be absorbed through skin.

DNEL

Industry - Inhalation; Short term local effects: 706 mg/m³
Industry - Dermal; Long term local effects: 4750 mg/kg/day
Industry - Inhalation; Long term local effects: 353 mg/m³
Consumer - Inhalation; Short term local effects: 353 mg/m³
Consumer - Dermal; Long term local effects: 2395 mg/kg/day
Consumer - Dermal; Long term local effects: 88.3 mg/m³
Consumer - Oral; Long term local effects: 0.06 mg/kg/day
Consumer - Oral; Short term local effects: 0.06 mg/kg/day
Consumer - Inhalation; Short term systemic effects: 353 mg/m³

PNEC

- Fresh water; 0.54 mg/l
- Marine water; 0.194 mg/l
- Sediment (Freshwater); 0.972 mg/kg
- Soil; 0.583 mg/kg
- STP; 26 mg/l
- Sediment (Marinewater); 0.349 mg/kg
- Intermittent release; 26 mg/l

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

DICHLOROMETHANE

Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 4 hours. Polyvinyl alcohol (PVA). Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH). glove thickness > 0.35mm EN 374
Other skin and body protection	Wear rubber apron. Wear rubber footwear.
Hygiene measures	Provide eyewash station and safety shower. Wash contaminated clothing before reuse. Promptly remove any clothing that becomes contaminated. Wash promptly if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. Eating, smoking and water fountains prohibited in immediate work area.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Gas filter, type AX. EN 136/140/141/145/143/149

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Clear liquid.
Odour	Characteristic. Ether.
Odour threshold	200 - 250 ppm
pH	No information available.
Melting point	-95°C
Initial boiling point and range	39.8°C @ 760 mm Hg
Flash point	No information available.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 14 % Upper flammable/explosive limit: 22 %
Other flammability	No information available.
Vapour pressure	58.4 kPa @ 25°C
Vapour density	2.9
Relative density	1.320 @ 25°C
Bulk density	No information available.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	log Pow: 1.25 @ 20°C
Auto-ignition temperature	556°C
Decomposition Temperature	No information available.

DICHLOROMETHANE

Viscosity	0.420 mPa s @ 25°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The following materials may react with the product: Strong alkalis. Oxidising materials. Forms a detonable mixture with Nitric acid In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong alkalis. Strong oxidising agents. Amines. Water, steam, water mixtures. Zinc. Aluminium. Magnesium. Potassium. Magnesium. Sodium.

10.6. Hazardous decomposition products

Hazardous decomposition products Hydrogen chloride (HCl). Phosgene ($COCl_2$). Oxides of the following substances: Carbon monoxide (CO). Chlorine.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,000.0
Species	Rat

Acute toxicity - dermal

DICHLOROMETHANE

Acute toxicity dermal (LD_{50} mg/kg)	2,000.0
Species	Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	86.0
Species	Mouse
ATE inhalation (vapours mg/l)	86.0

Skin corrosion/irritation

Skin corrosion/irritation	Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	No information available.

Germ cell mutagenicity

Genotoxicity - in vitro	No information available.

Carcinogenicity

Carcinogenicity	Suspected of causing cancer.

Reproductive toxicity

Reproductive toxicity - fertility	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	No information available.

Aspiration hazard

Aspiration hazard	No information available.

Inhalation	May cause coughing and difficulties in breathing. May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Vapours in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.
Ingestion	Liquid irritates mucous membranes and may cause abdominal pain if swallowed.
Skin contact	Prolonged contact may cause redness, irritation and dry skin. Irritating to skin.
Eye contact	A single exposure may cause the following adverse effects: Corneal damage. Irritation of eyes and mucous membranes.
Acute and chronic health hazards	Known or suspected carcinogen for humans.
Target organs	Eyes Skin Respiratory system, lungs Heart & cardiovascular system Kidneys Liver Central nervous system

DICHLOROMETHANE

SECTION 12: Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 193 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 27 mg/l, Daphnia magna
OECD 202

Acute toxicity - aquatic plants EC_{50}, 96 hours: > 662 mg/l, Scenedesmus subspicatus
OECD 201

Acute toxicity - microorganisms EC_{50}, 40 minute: 2590 mg/l, Activated sludge
OECD 209

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 28 days: 83 mg/l, Pimephales promelas (Fat-head Minnow)

12.2. Persistence and degradability

Persistence and degradability The product is slowly degradable.

Biodegradation - Degradation (%) 66: 50 hours
Water - DT_{50} : 14.2 days

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
BCF: < 2.0 - 40.0, Fish

Partition coefficient log Pow: 1.25 @ 20°C

12.4. Mobility in soil

Mobility The product is miscible with water and may spread in water systems.

Henry's law constant 0.0398 Pa m3/mol @ °C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class LER 140602

DICHLOROMETHANE

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 1593

UN No. (IMDG) 1593

UN No. (ICAO) 1593

UN No. (ADN) 1593

14.2. UN proper shipping name

Proper shipping name (ADR/RID) DICHLOROMETHANE

Proper shipping name (IMDG) DICHLOROMETHANE

Proper shipping name (ICAO) DICHLOROMETHANE

Proper shipping name (ADN) DICHLOROMETHANE

14.3. Transport hazard class(es)

ADR/RID class 6.1

ADR/RID classification code T1

ADR/RID label 6.1

IMDG class 6.1

ICAO class/division 6.1

ADN class 6.1

Transport labels

14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ADN packing group III

ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-A, S-A

ADR transport category 2

Emergency Action Code 2Z

DICHLOROMETHANE

Hazard Identification Number (ADR/RID)	60
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015.
Restrictions (Title VIII Regulation 1907/2006)	This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 59

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Other information

DICHLOROMETHANE

Abbreviations and acronyms used in the safety data sheet	ATE: Acute Toxicity Estimate. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. Kow: Octanol-water partition coefficient. LC_{50}: Lethal Concentration to 50 % of a test population. LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose). PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. vPvB: Very Persistent and Very Bioaccumulative. IARC: International Agency for Research on Cancer. MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. cATpE: Converted Acute Toxicity Point Estimate. BCF: Bioconcentration Factor. BOD: Biochemical Oxygen Demand. EC_{50}: 50% of maximal Effective Concentration. LOAEC: Lowest Observed Adverse Effect Concentration. LOAEL: Lowest Observed Adverse Effect Level. NOAEC: No Observed Adverse Effect Concentration. NOAEL: No Observed Adverse Effect Level. NOEC: No Observed Effect Concentration. LOEC: Lowest Observed Effect Concentration. DMEL: Derived Minimal Effect Level. EL50: Exposure Limit 50 hPa: Hectopascal LL50: Lethal Loading fifty OECD: Organisation for Economic Co-operation and Development POW: Octanol-water partition coefficient SCBA: self-contained breathing apparatus STP: Sewage Treatment Plant VOC: Volatile Organic Compounds
Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Aquatic Acute = Hazardous to the aquatic environment (acute) Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	ECHA Disseminated REACH Dossier
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	08/02/2018
Version number	4.000
Supersedes date	10/08/2017
SDS number	395

DICHLOROMETHANE

SDS status	Approved.
Hazard statements in full	H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer.
Signature	Jitendra Panchal