

SAFETY DATA SHEET

PK1



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

1.1. Product identifier

Product Name: **PK1**
Identification of Product: See section 3
REACH registration No.: Not available

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

1.2.1. Relevant identified uses

Main use category: Industrial use, Professional Use
Use of the substance/mixture: Bonding plastics

1.2.2. Uses advised against

No additional information available

1.3 Details of the supplier of the safety data sheet

Supplier

Company Name: Alternative Plastics Ltd
Unit 1, Buckingham Close
Bermuda Industrial Estate
Nuneaton
Warwickshire
CV10 7JT
UK

Tel: +44 (0)2476 641210
Email: sales@alternativeplastics.co.uk

1.4. Emergency telephone number

Emergency number : +44 (0)2476 641210 (Office hours only)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	NHS 111/NHS 24/NHS Direct		111 0845 4647	or call a doctor

SAFETY DATA SHEET

PK1



SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Contains: Dichloromethane, Acetic Acid

Flammable liquid and vapour	H226
May be corrosive to metals	H290
Causes severe skin burns and eye damage, 1A	H314
Skin corrosion/irritation, Category 2	H315
Causes serious eye damage, 1	H318
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336

Most important adverse effects: Flammable liquid and vapour. May be corrosive to metals. Causes severe skin burns and eye damage. Suspected of causing cancer. May cause drowsiness or dizziness.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):



Signal words:	Warning
Hazard statements:	H226: Flammable liquid and vapour H290: May be corrosive to metals H314: Causes severe skin burns and eye damage, 1A H315: Skin corrosion/irritation, Category 2 H318: Causes serious eye damage, 1 H319: Serious eye damage/eye irritation, Category 2 H351: Carcinogenicity, Category 2 H336: Specific target organ toxicity – Single exposure, Category 3, Narcosis

Precautionary statements:	P201: Obtain special instructions before use. P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P261: Avoid breathing dust/fumes/gas/mist/vapours/spray. P264: Wash skin thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P303+361+353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310: Immediately call a POISON CENTER or doctor.
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SAFETY DATA SHEET

PK1



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+313: IF exposed or concerned: Get medical advice/attention.

P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P403: Store in a well-ventilated place.

P501: Dispose of contents/container to registered waste disposal company.

2.3. Other hazards

No additional information available.

SECTION 3: Composition/information on ingredients

Substance type : Mixture

Name	Product identifier	%	Classification
Dichloromethane Synonyms: Methylene Chloride	CAS-No.: 75-09-2 EC-No.: 200-838-9 EC Index-No.: 602-004-00-3	75 - 99	H315 H319 H351 H336
Acetic Acid Synonyms: Glacial Acetic Acid	CAS-No.: 64-19-7 EC-No.: 200-580-7 Molecular Formula: C2H4O2	1 - 25	H226 H290 H314 H318

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation:	Remove person to fresh air and keep comfortable for breathing. If unconscious, check for breathing and apply artificial respiration if necessary. Consult a doctor.
First-aid measures after skin contact:	Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. Consult a doctor.
First-aid measures after eye contact:	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor.
First-aid measures after ingestion:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water. Consult a doctor.

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

Symptoms/effects after inhalation:	There may be a feeling of tightness in the chest with shortness of breath. There may be vomiting. Inhalation may cause irritation (cough, difficulty in breathing).
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SAFETY DATA SHEET

PK1



Symptoms/effects after skin contact:	Direct contact or exposure to high concentrations could cause erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness. Causes skin irritation. irritation (itching, redness, blistering). Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact:	May cause permanent blindness. Redness, itching, tears. Causes eye irritation, stinging.
Symptoms/effects after ingestion:	There may be shortness of breath due to congestion of the lungs. Ingestion may cause nausea and vomiting. Headaches or general malaise may result. May be harmful if swallowed. May cause irritation to the digestive tract.
Delayed / immediate effects:	No data available.

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

Immediate / special treatment: No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Dry chemical powder. Dry sand.
Unsuitable extinguishing media:	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Carbon monoxide. Chlorine.

5.3. Advice for firefighters

Precautionary measures fire:	Evacuate area.
Protection during firefighting:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Eliminate all sources of ignition. Evacuate the area immediately. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Refer to section 8 for personal protection details. Avoid contact with skin and eyes.
General measures:	Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

SAFETY DATA SHEET

PK1



6.3. Methods and material for containment and cleaning up

Clean-up procedures: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid inhalation of vapour or mist. Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. For precautions see section 2.2.

Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Ground/bond container and receiving equipment.
Storage conditions: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage area: Store away from heat.
Special rules on packaging: Keep only in original container.
Packaging materials: Keep only in the original container in a cool, well-ventilated place away from combustible materials.

7.3. Specific end use(s)

No additional information available

SAFETY DATA SHEET

PK1



SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Dichloromethane

Dichloromethane Synonyms: Methylene Chloride (75-09-2)	
Ireland - Occupational Exposure Limits	
OEL TWA [1]	353 mg/m ³
OEL TWA [2]	100 ppm
OEL STEL	706 mg/m ³
OEL STEL	200 ppm
Remark	Can be absorbed through the skin
United Kingdom - Occupational Exposure Limits	
Local name	Dichloromethane
WEL TWA (OEL TWA) [1]	353 mg/m ³
WEL TWA (OEL TWA) [2]	100 ppm
WEL STEL (OEL STEL)	706 mg/m ³
WEL STEL (OEL STEL) [ppm]	200 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Dichloromethane
BMGV	30 ppm Parameter: carbon monoxide - Medium: end-tidal breath - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

SAFETY DATA SHEET

PK1



Acetic Acid

Workplace exposure limits:

Respirable dust

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
EU	25 mg/m ³	50 mg/m ³	25 mg/m ³	-

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Dichloromethane

Dichloromethane Synonyms: Methylene Chloride (75-09-2)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	12 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	353 mg/m ³
Long-term - local effects, inhalation	706 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	353 mg/m ³
Long-term - systemic effects, oral	0.06 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	88.3 mg/m ³
Long-term - systemic effects, dermal	5.82 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.31 mg/l
PNEC aqua (marine water)	0.031 mg/l
PNEC aqua (intermittent, freshwater)	0.27 mg/l
PNEC aqua (intermittent, marine water)	0.027 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	2.57 mg/kg dwt
PNEC sediment (marine water)	0.26 mg/kg dwt
PNEC (Soil)	

SAFETY DATA SHEET

PK1



PNEC soil	0.33 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	26 mg/l

Acetic Acid

No Data available

8.1.5. Control banding

No additional information available

8.2. Exposure Controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	Filter type	Condition	Standard
Aerosol mask	ABEK	Vapour protection, Protection for Liquid particles	EN 14387, EN143

Eye protection: Tightly fitting safety goggles. Face-shield.

Skin and body protection: Complete suit protecting against chemicals. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hand protection: Protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Butyl rubber	5 (> 240 minutes)	0.44		EN 374-2

Environmental exposure controls: Avoid release to the environment.

SAFETY DATA SHEET

PK1



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Colourless.
Odour:	Pungent.
Odour threshold:	250 ppm (Dichloromethane) Not available (Acetic Acid)
Melting point:	-95 °C (Dichloromethane)
Freezing point:	Not available
Boiling point:	40 °C (Dichloromethane)
Flammability limits %:	lower: 4, upper: 19 (Acetic Acid)
Flash point:	40 °C (Acetic Acid)
Auto-ignition temperature:	426 °C (Acetic Acid)
Decomposition temperature:	Not available
pH:	Not available
Vapour pressure:	11.4mmHg, 20°C (Acetic Acid), density: 2.07 380mmHg, 22°C (Dichloromethane), density: 2.93
Log P(o/w):	-0.31 (Acetic Acid) 1.25 (Dichloromethane)
Solubility in water:	Total (Acetic Acid) 20 g/l (Dichloromethane)
Density:	1.29 - 1.33 g/cm ³

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

SAFETY DATA SHEET

PK1



10.5. Incompatible materials

Oxidizing agents. Soluble carbonates and phosphates Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide.
Hazardous decomposition products formed under fire conditions. - Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Dichloromethane

Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

Dichloromethane	Synonyms: Methylene Chloride (75-09-2)
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	86 mg/l

Skin corrosion/irritation: Prolonged skin contact may defat the skin and produce dermatitis. May cause irritation of the mucous membranes.
pH: 7
Serious eye damage/irritation: Severe eye irritation
pH: 7
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: Not classified
STOT-single exposure: May cause drowsiness or dizziness.
STOT-repeated exposure: Not classified

Dichloromethane	Synonyms: Methylene Chloride (75-09-2)
NOAEL (oral, rat, 90 days)	6 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Aspiration hazard: Not classified

Dichloromethane	Synonyms: Methylene Chloride (75-09-2)
Viscosity, kinematic	0.31 mm ² /s

SAFETY DATA SHEET

PK1



Acetic Acid

Toxicity values:

Route	Species	Test	Value	Units
ORAL	RAT	LD50	3,310	mg/kg
INHALATION	MUS	1H LC50	5620	ppm
INHALATION	RAT	4H LC50	11.4	mg/l
DERMAL	RBT	LD50	1,112	mg/kg

Relevant hazards for substance:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Based on test data
Serious eye damage/irritation	OPT	Based on test data

Symptoms / routes of exposure

Symptoms/effects after inhalation:	There may be a feeling of tightness in the chest with shortness of breath. There may be vomiting. Inhalation may cause irritation (cough, difficulty in breathing).
Symptoms/effects after skin contact:	Direct contact or exposure to high concentrations could cause erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness. Causes skin irritation. irritation (itching, redness, blistering). Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact:	May cause permanent blindness. Redness, itching, tears. Causes eye irritation, stinging.
Symptoms/effects after ingestion:	There may be shortness of breath due to congestion of the lungs. Ingestion may cause nausea and vomiting. Headaches or general malaise may result. May be harmful if swallowed. May cause irritation to the digestive tract.
Delayed / immediate effects:	No data available.

11.2. Information on other hazards

No additional information available

SAFETY DATA SHEET

PK1



SECTION 12: Ecological information

12.1. Toxicity

Dichloromethane

Dichloromethane	Synonyms: Methylene Chloride (75-09-2)
LC50 - Fish [1]	193 mg/l Test organisms (species): Pimephales promelas
EC50 96h - Algae [1]	> 662 mg/l (Pseudokirchneriella subcapitata (green algae)
NOEC chronic fish	83 mg/l (Pimephales promelas (fathead minnow); 28 d)

Acetic acid

Species	Test	Value	Units
FISH	96H LC50	> 1,000	mg/l
DAPHNIA	48H EC50	> 300.82	mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Dichloromethane

Dichloromethane	Synonyms : Methylene Chloride (75-09-2)
Partition coefficient n-octanol/water (Log Pow)	1.25

Acetic Acid

No data available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SAFETY DATA SHEET

PK1



SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information: Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1593	UN 1593	UN 1593	UN 1593	UN 1593
14.2. UN proper shipping name				
DICHLOROMETHANE (Mixture)	DICHLOROMETHANE (Mixture)	Dichloromethane (Mixture)	DICHLOROMETHANE (Mixture)	DICHLOROMETHANE (Mixture)
Transport document description				
UN 1593 DICHLOROMETHANE, 6.1, III, (E)	UN 1593 DICHLOROMETHANE, 6.1, III	UN 1593 Dichloromethane, 6.1, III	UN 1593 DICHLOROMETHANE, 6.1, III	UN 1593 DICHLOROMETHANE, 6.1, III
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

SAFETY DATA SHEET

PK1



14.6. Special precautions for user

Overland transport

Limited quantities (ADR): 5I
Tunnel restriction code (ADR): E

Transport by sea

Limited quantities (IMDG): 5 L
Properties and observations (IMDG) : Colourless, volatile liquid with heavy vapours. Boiling point: 40°C.
When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer

SAFETY DATA SHEET



ALTERNATIVE PLASTICS LTD

PK1

IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements

Flammable liquid and vapour	H226
May be corrosive to metals	H290
Causes severe skin burns and eye damage, 1A	H314
Skin corrosion/irritation, Category 2	H315
Causes serious eye damage, 1	H318
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.