



SAFETY DATA SHEET

A05196 PART B

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

1.1. Product identifier

Product name	A05196 PART B
Product number	A05196 PART B, FP-000504, FP-000505, FP-001792
Synonyms; trade names	P-MDI, MDI
REACH registration number	01-2119457014-47-0000
CAS number	101-68-8
EU index number	615-005-00-9
EC number	202-966-0

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

Identified uses	Adhesive.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	APOLLO CHEMICALS LTD SANDY WAY AMINGTON INDUSTRIAL ESTATE TAMWORTH STAFFS B77 4DS T: +44 (0) 1827 54281 F: +44 (0) 1827 53030 E: sds@apolloadhesives.com
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1.4. Emergency telephone number

Emergency telephone	+44 01827 69662 (NOT 24HRS)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards	Not Classified
Human health	Contains non-volatile isocyanate. Heating may generate vapours which irritate the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.2. Label elements

EC number	202-966-0
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A05196 PART B**Pictogram****Signal word**

Danger

Hazard statements

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe vapour/ spray.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 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+P313 IF exposed or concerned: Get medical advice/ attention.
 P501 Dispose of contents/ container in accordance with national regulations.

Supplemental label information

EUH204 Contains isocyanates. May produce an allergic reaction.

Contains

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

Supplementary precautionary statements

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing vapour/ spray.
 P264 Wash contaminated skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P284 [In case of inadequate ventilation] wear respiratory protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 Call a POISON CENTER/ doctor if you feel unwell.
 P314 Get medical advice/ attention if you feel unwell.
 P321 Specific treatment (see medical advice on this label).
 P332+P313 If skin irritation occurs: Get medical advice/ attention.
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337+P313 If eye irritation persists: Get medical advice/ attention.
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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DIPHENYLMETHANE-4,4'-DI-ISOCYANATE		60-100%
CAS number: 101-68-8	EC number: 202-966-0	REACH registration number: 01-2119457014-47
Classification Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373		

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination.
Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	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 if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Irritation of nose, throat and airway. Coughing, chest tightness, feeling of chest pressure.
Ingestion	May cause discomfort if swallowed.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	Severe irritation, burning and tearing.

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

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	The product is non-combustible. Irritating gases or vapours. Not known.
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Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting Containers close to fire should be removed or cooled with water. Do not allow water to contact any leaked material.

Special protective equipment for firefighters Wear chemical protective suit. 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 Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with non-combustible, absorbent material. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

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 inhalation of vapours and spray/mists. Avoid contact with skin and eyes. Do not use in confined spaces without adequate ventilation and/or respirator. Spraying is permitted only in closed systems, spray cabinets or spray boxes with adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in closed original container at temperatures between 5°C and 25°C.

Storage class Chemical storage.

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 0.02 mg/m³(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

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DIPHENYLMETHANE-4,4'-DI-ISOCYANATE (CAS: 101-68-8)

DNEL

Workers - Inhalation; Short term systemic effects: 0.1 mg/m³
 Workers - Dermal; Short term local effects: 28.7 mg/cm²
 Workers - Inhalation; Short term local effects: 0.1 mg/m³
 Workers - Inhalation; Long term systemic effects: 0.05 mg/m³
 Workers - Inhalation; Long term local effects: 0.05 mg/m³
 Consumer - Dermal; Short term systemic effects: 25 mg/kg bw/day
 Workers - Dermal; Short term systemic effects: 50 mg/kg bw/day
 Consumer - Oral; Short term systemic effects: 20 mg/kg bw/day
 Consumer - Dermal; Short term local effects: 17.2 mg/cm²
 Consumer - Inhalation; Short term local effects: 0.05 mg/m³
 Consumer - Inhalation; Long term systemic effects: 0.025 mg/m³
 Consumer - Inhalation; Long term local effects: 0.025 mg/m³
 Consumer - Inhalation; Short term systemic effects: 0.05 mg/m³

PNEC

- Marine water; 0.1 mg/l
 - STP; 1 mg/l
 - Fresh water; 1 mg/l
 - Soil; 1 mg/kg

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.

Eye/face protection

Wear chemical splash goggles.

Hand protection

It is recommended that gloves are made of the following material: Nitrile rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber.

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash hands after handling. When using do not eat, drink or smoke.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: ABEK Particulate filter, type P3.

Environmental exposure controls

Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Brown.
Odour	Musty (mouldy).
Odour threshold	Not available.
pH	Not available.

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Melting point	<10°C
Initial boiling point and range	330°C @ mbar
Flash point	>200°C CC (Closed cup).
Evaporation rate	slow
Evaporation factor	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not available.
Vapour pressure	0.01 Pa @ °C
Vapour density	8.5
Relative density	1.24 @ 20°C
Bulk density	Not available.
Solubility(ies)	Insoluble in water. Hardens in contact with water.
Partition coefficient	Not available.
Auto-ignition temperature	>600°C
Decomposition Temperature	Not available.
Viscosity	90-130 mPa s @ 25°C
Explosive properties	Not available.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not available.
Comments	Information given is applicable to the product as supplied.

9.2. Other information

Other information	No information required.
Refractive index	Not available.
Particle size	Not available.
Molecular weight	Not available.
Volatility	Not available.
Saturation concentration	Not available.
Critical temperature	Not available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	The product will harden into a solid mass in contact with water and moisture.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not applicable. May polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid contact with water.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - inhalation

ATE inhalation (gases ppm) 4,500.0

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

Skin corrosion/irritation

Animal data Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Moderately irritating.

Respiratory sensitisation

Respiratory sensitisation Sensitising.

Carcinogenicity

Carcinogenicity Suspected carcinogen based on limited evidence.

Target organ for carcinogenicity No specific target organs known.

Reproductive toxicity

Reproductive toxicity - development This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Morphological changes that are potentially reversible but provide clear evidence of marked organ dysfunction.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation

Irritating to respiratory system. May cause sensitisation by inhalation.

Ingestion

May cause stomach pain or vomiting.

Skin contact

Irritating to skin. May cause sensitisation by skin contact.

Eye contact

Irritation of eyes and mucous membranes.

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Acute and chronic health hazards	May cause sensitisation by skin contact. The product contains small quantities of isocyanate. May cause respiratory allergy. May cause respiratory system irritation. May cause respiratory system irritation. Frequent inhalation of vapours may cause respiratory allergy.
Route of entry	Inhalation Skin and/or eye contact
Medical symptoms	Irritation of eyes and mucous membranes. Coughing, chest tightness, feeling of chest pressure.
Medical considerations	Chronic respiratory and obstructive airway diseases.

Toxicological information on ingredients.

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,000.0

Species Rat

ATE oral (mg/kg) 10,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 9,400.0

Species Rabbit

ATE dermal (mg/kg) 9,400.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 0.49

Species Rat

ATE inhalation (vapours mg/l) 11.0

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 1000 mg/l, Freshwater fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >500 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: ~ 1640 mg/l, Scenedesmus subspicatus

Ecological information on ingredients.

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

Acute toxicity - fish LC₅₀, 96 hours: >1000 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 24 hours: >1000 mg/l, Daphnia magna

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Chronic toxicity - aquatic invertebrates NOEC, 21 days: >10 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

Stability (hydrolysis) Reacts with water.

Biological oxygen demand < 10 g O₂/g substance

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient Not available.

Ecological information on ingredients.

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

Partition coefficient log Pow: 4.51

12.4. Mobility in soil

Mobility The product is non-volatile.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled 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.

SECTION 14: Transport information

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

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Transport labels

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended).
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).
Guidance	Isocyanates: Health hazards and precautionary measures EH16.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Issued by	Compliance
Revision date	01/06/2017
Revision	20
Supersedes date	01/06/2015
SDS number	20280
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H373 May cause damage to organs through prolonged or repeated exposure.
Store Between	Store Between 5°C - 25°C
Contains SVHC	NO

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.