

Delta D351 Super Fast Polyurethane Adhesive Component A

Product code: D351 Component A

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Adhesives, sealants

Uses advised against

any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: Delta Adhesives Limited
Place: Units 39-40 Claycliffe Business Park, Barnsley, S75 1JU, United Kingdom
Telephone: +44 (0)1226 381571
Internet: www.delta-adhesives.co.uk
Responsible Department: info@delta-adhesives.co.uk

1.4. Emergency telephone number: +44 (0)1226 381571 (Mo-Fr, 08:00-16:00)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Directive 67/548/EEC or 1999/45/EC**

Indications of danger: Xn - Harmful, Xi - Irritant
R phrases:
Harmful by inhalation.
Irritating to eyes, respiratory system and skin.
Limited evidence of a carcinogenic effect.
May cause sensitisation by inhalation and skin contact.
Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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

Hazard categories:
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Respiratory/skin sensitization: Resp. Sens. 1
Respiratory/skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - single exposure: STOT SE 3
Specific target organ toxicity - repeated exposure: STOT RE 2
Hazard Statements:
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

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Hazardous components which must be listed on the label4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate
methylenediphenyl diisocyanate

Signal word:

Danger

Pictograms:

GHS07-GHS08

**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 dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P337+P313	If eye irritation persists: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Special labelling of certain mixtures

EUH204	Contains isocyanates. May produce an allergic reaction.
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2.3. Other hazards

No information available.

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

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
202-966-0	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	95 - < 100 %
101-68-8	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R40-20-48/20-36/37/38-42/43	
615-005-00-9	Carc. 2, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1; H351 H332 H373 ** H319 H335 H315 H334 H317	
247-714-0	methylenediphenyl diisocyanate	< 1 %
26447-40-5	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R40-20-48/20-36/37/38-42/43	
615-005-00-9	Carc. 2, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2, Resp. Sens. 1, Skin Sens. 1; H351 H332 H373 ** H319 H335 H315 H334 H317	

Full text of R-, H- and EUH-phrases: see section 16.

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Further Information

Product does not contain listed SVHC substances.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Take off immediately all contaminated clothing.

First aider: Pay attention to self-protection! Use appropriate respiratory protection.

After inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Where appropriate artificial ventilation. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately. Apply cortisone spray at early stage.

After contact with skin

Take off immediately all contaminated clothing. Wash immediately with: Water and soap. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Get medical advice/attention.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Extinguishing powder, Carbon dioxide (CO₂), Foam

In case of major fire and large quantities: Foam

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide., Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. In case of fire and/or explosion do not breathe fumes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Remove persons to safety.

Avoid generation of dust.

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Avoid exposure. Do not breathe dust. Avoid contact with skin, eyes and clothes.
Use appropriate respiratory protection.
Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Take up mechanically. Avoid generation of dust.
Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation as well as local exhaustion at critical locations.
Avoid exposure - obtain special instructions before use.
Do not breathe dust. Avoid contact with skin, eyes and clothes.
Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion

Usual measures for fire prevention.

Further information on handling

Conditions to avoid: Generation/formation of dust
General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep only in the original container in a cool, well-ventilated place.
Keep container tightly closed and dry.
Ensure adequate ventilation of the storage area.

Advice on storage compatibility

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances.
Infectious substances.

Further information on storage conditions

Protect against: Heat, Humidity, UV-radiation/sunlight

7.3. Specific end use(s)

refer to chapter 1.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Isocyanates, all (as -NCO) Except methyl isocyanate	-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL

8.2. Exposure controls

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**Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

Protective and hygiene measures

Always close containers tightly after the removal of product. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Take off contaminated clothing and wash it before reuse. Street clothing should be stored separately from work clothing. Contaminated work clothing should not be allowed out of the workplace.

Eye/face protection

Recommended eye protection articles: Eye glasses with side protection DIN EN 166

Hand protection

Wear suitable gloves. DIN EN 374

Suitable material:

CR (polychloroprene, chloroprene rubber) (0,5 mm)

NBR (Nitrile rubber) (0,35 mm)

Butyl caoutchouc (butyl rubber) (0,5 mm)

FKM (fluoro rubber) (0,4 mm)

PVC (Polyvinyl chloride) (0,5 mm)

Breakthrough time (maximum wearing time): >480 min

Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

Suitable respiratory protection apparatus: Combination filtering device (EN 14387) Type AB-P3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	colourless - yellow
Odour:	stinging

pH-Value: not determined

Test method**Changes in the physical state**

Melting point:	ca. 40 °C
Initial boiling point and boiling range:	>300 °C
Flash point:	>200 °C
Sustaining combustion:	No data available

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Explosive properties

none

Lower explosion limits: ca. 0,4 vol. %
Upper explosion limits: not determined
Decomposition temperature: not determined

Oxidizing properties

none

Vapour pressure: not determined
Density: ~1,3 g/cm³
Water solubility: not determined
Viscosity / dynamic: not determined

9.2. Other information

Solid content: not determined

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

Hazardous polymerisation: Monomeric MDI can polymerise violently upon heating.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Reacts with : Water; Formation of: Carbon dioxide (CO₂)

10.4. Conditions to avoid

Keep away from heat.
Protect from moisture.
Protect against direct sunlight.
Avoid generation of dust.

10.5. Incompatible materials

Water, Oxidising agent, strong, Reducing agent, strong, alkali, Acid, Alcohols, Amines, Metal

10.6. Hazardous decomposition products

Can be released in case of fire: Carbon monoxide., Carbon dioxide (CO₂), Nitrogen oxides (NO_x),
Hydrogen cyanide (hydrocyanic acid)

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No information available.

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalative vapour) 11,11 mg/l; ATE (inhalative aerosol) 1,515 mg/l

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CAS No	Chemical name	Exposure routes	Method	Dose	Species	Source
101-68-8	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate					
	oral	LD50	>5000 mg/kg	Ratte	RTECS	
	inhalative vapour	ATE	11 mg/l			
	inhalative (4 h) aerosol	LC50	(0,368) mg/l	Ratte	ECHA Dossier	
26447-40-5	methylenediphenyl diisocyanate					
	inhalative vapour	ATE	11 mg/l			
	inhalative aerosol	ATE	1,5 mg/l			

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate), (methylenediphenyl diisocyanate)
May cause allergy or asthma symptoms or breathing difficulties if inhaled. (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate), (methylenediphenyl diisocyanate)
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

STOT-single exposure

May cause respiratory irritation. (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate), (methylenediphenyl diisocyanate)

Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure. (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate), (methylenediphenyl diisocyanate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate), (methylenediphenyl diisocyanate)
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate:
In vitro mutagenicity/genotoxicity:
Method: Method B.13/14 (Mutagenicity - Reverse Mutation Test Using Bacteria)
Test result: negative.
literature information: ECHA Dossier

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

SECTION 12: Ecological information**12.1. Toxicity**

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available

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12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to EAKV:

Waste disposal number of waste from residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing dangerous substances
Classified as hazardous waste.

Waste disposal number of used product

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing dangerous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances
Classified as hazardous waste.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: Not restricted

14.2. UN proper shipping name: Not restricted

14.3. Transport hazard class(es): Not restricted

14.4. Packing group: Not restricted

Inland waterways transport (ADN)

14.1. UN number: Not restricted

14.2. UN proper shipping name: Not restricted

14.3. Transport hazard class(es): Not restricted

14.4. Packing group: Not restricted

Marine transport (IMDG)

14.1. UN number: Not restricted

14.2. UN proper shipping name: Not restricted

14.3. Transport hazard class(es): Not restricted

14.4. Packing group: Not restricted

Air transport (ICAO)

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14.1. UN number: Not restricted**14.2. UN proper shipping name:** Not restricted**14.3. Transport hazard class(es):** Not restricted**14.4. Packing group:** Not restricted**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Not restricted

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not restricted

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

2010/75/EU (VOC): No information available.

2004/42/EC (VOC): No information available.

Additional informationThis preparation is hazardous in the sense of regulation (EC) No 1272/2008 [GHS].
Not subject to 96/82/EC**National regulatory information**

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

Rev. 1,00, 07.05.2015, Initial release

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the

International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations

Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

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Relevant R-phrases (Number and full text)

20	Harmful by inhalation.
36/37/38	Irritating to eyes, respiratory system and skin.
40	Limited evidence of a carcinogenic effect.
42/43	May cause sensitisation by inhalation and skin contact.
48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Relevant H- and EUH-phrases (Number and full text)

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.
EUH204	Contains isocyanates. May produce an allergic reaction.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)