

# SAFETY DATA SHEET

ADHESIVE 1968



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

### 1.1 Product identifier

**Product name** : ADHESIVE 1968  
**Product code** : 1968  
**Product description** : Not available.

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

#### Identified uses

Wood Adhesives

### 1.3 Details of the supplier of the safety data sheet

CASCO ADHESIVES AB  
 Box 11538  
 SE-100 61 Stockholm, Sweden  
 Phone: + 46 8 743 40 00  
 hse.adhesives@akzonobel.com

### 1.4 Emergency telephone number

**Telephone number** : +46 8 33 70 43

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Carc. Cat. 3; R40  
 Xn; R20, R48/20  
 Xi; R36/37/38  
 R42/43

**Human health hazards** : Limited evidence of a carcinogenic effect. Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard symbol or symbols** :



**Indication of danger** : Harmful

**Risk phrases** : R40- Limited evidence of a carcinogenic effect.  
 R20- Harmful by inhalation.  
 R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
 R36/37/38- Irritating to eyes, respiratory system and skin.  
 R42/43- May cause sensitisation by inhalation and skin contact.

**Safety phrases** : S23- Do not breathe vapour or spray.  
 S36/37- Wear suitable protective clothing and gloves.  
 S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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**SECTION 2: Hazards identification**

**Hazardous ingredients** : 4,4'-methylenediphenyl diisocyanate  
**Supplemental label elements** : Contains isocyanates.

**2.3 Other hazards**

**Other hazards which do not result in classification** : No known significant effects or critical hazards.

**SECTION 3: Composition/information on ingredients**

<b>Product/ingredient name</b>	<b>Identifiers</b>	<b>%</b>	<b>Classification 67/548/EEC</b>	<b>Type</b>
Benzene, 1,1'-methylenebis[isocyanato-, polymer with 1,2-ethanediamine, methyloxirane and oxirane	EC: Polymer	25-50	Carc. Cat. 3; R40 Xn; R20, R48/20 Xi; R36/37/38 R42/43	[1]
4,4'-Methylenediphenyl diisocyanate, oligomers	REACH #: 01-2119457013-49 EC: 500-040-3 CAS: 25686-28-6	25-50	Carc. Cat. 3; R40 Xn; R20, R48/20 Xi; R36/37/38 R42/43	[1]
Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer, polymer with alpha-hydroomegahydroxypoly(oxy(methyl-1,2-ethanediyl)	EC: Polymer	10-25	Carc. Cat. 3; R40 Xn; R20, R48/20 Xi; R36/37/38 R42/43  See Section 16 for the full text of the R-phrases declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

**Eye contact** : Check for and remove any contact lenses. Rinse with plenty of running water. Get medical attention.

**Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

**Skin contact** : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention if irritation develops.

**SECTION 4: First aid measures**

- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.
- Protection of first-aiders** : Put on appropriate personal protective equipment (see Section 8).

**4.2 Most important symptoms and effects, both acute and delayed****Potential acute health effects**

- Eye contact** : Irritating to eyes.
- Inhalation** : Harmful by inhalation. May cause sensitisation by inhalation.
- Skin contact** : Irritating to skin. May cause sensitisation by skin contact.
- Ingestion** : Irritating to mouth, throat and stomach.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Water jet.

**5.2 Special hazards arising from the substance or mixture**

- Hazards from the substance or mixture** : In a fire, decomposition may produce toxic gases/fumes.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

**5.3 Advice for firefighters**

- Special protective actions for fire-fighters** : Not applicable.
- Special protective equipment for fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

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

- For non-emergency personnel** : Avoid breathing vapour or mist. Wear appropriate respirator when ventilation is inadequate. Use suitable protective equipment (section 8). Avoid contact with eyes, skin and clothing.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**6.3 Methods and materials for containment and cleaning up**

- Small spill** : Absorb with an inert material and place in an appropriate waste disposal container. Contaminated absorbent material may pose the same hazard as the spilt product.
- Large spill** : Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Prevent entry into sewers, water courses, basements or confined areas. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 13 for additional waste treatment information.

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

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Keep from any possible contact with water. The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Keep from any possible contact with water. Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

**7.3 Specific end use(s)**

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
4,4'-methylenediphenyl diisocyanate	<b>ACGIH TLV (United States).</b> TWA: 0,005 ppm 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

#### Derived effect levels

No DELs available.

#### Predicted effect concentrations

No PECs available.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

**Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

**Eye/face protection** : Tightly-fitting goggles.

#### Skin protection

**Hand protection** : Butyl rubber gloves. Nitrile gloves. Neoprene gloves.

**Body protection** : Protective clothing.

**Respiratory protection** : Wear appropriate respirator when ventilation is inadequate. Type A2 / P2.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: Liquid.
<b>Colour</b>	: Yellow.
<b>Odour</b>	: Faint odour.
<b>Odour threshold</b>	: Not available.
<b>pH</b>	: Not available.
<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	: Not available.
<b>Flash point</b>	: Closed cup: >170°C
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Burning time</b>	: Not applicable.
<b>Burning rate</b>	: Not applicable.

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**SECTION 9: Physical and chemical properties**

<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Density</b>	: 1,1 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	: Insoluble in the following materials: cold water.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Dynamic: 1900 to 2500 mPa·s
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Keep away from water or moist air.
<b>10.5 Incompatible materials</b>	: Water, alcohols, amines, alkalis, acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
4,4'-Methylenediphenyl diisocyanate, oligomers	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

**Conclusion/Summary** : Not available.Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4,4'-methylenediphenyl diisocyanate	Eyes - Moderate irritant	Rabbit	-	-	-

Sensitisation

Product/ingredient name	Route of exposure	Species	Result

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## SECTION 11: Toxicological information

4,4'-Methylenediphenyl diisocyanate, oligomers	skin	Guinea pig	Sensitising
4,4'-methylenediphenyl diisocyanate	Respiratory skin	Guinea pig Guinea pig	Sensitising Sensitising
	Respiratory	Guinea pig	Sensitising

**Skin** : May cause sensitisation by skin contact.

**Respiratory** : May cause sensitisation by inhalation.

### Potential acute health effects

**Eye contact** : Irritating to eyes.

**Inhalation** : Harmful by inhalation. May cause sensitisation by inhalation.

**Skin contact** : Irritating to skin. May cause sensitisation by skin contact.

**Ingestion** : Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness

**Ingestion** : No specific data.

### Potential chronic health effects

**General** : Harmful: danger of serious damage to health by prolonged exposure through inhalation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
4,4'-Methylenediphenyl diisocyanate, oligomers	Acute EC50 >1000 mg/l	Daphnia	24 hours
	Acute LC50 >1000 mg/l Chronic NOEC >10 mg/l	Fish Daphnia	96 hours 21 days
4,4'-methylenediphenyl diisocyanate	Acute EC50 >1000 mg/l	Daphnia	24 hours
	Acute LC50 >1000 mg/l Chronic NOEC >10 mg/l	Fish Daphnia	96 hours 21 days

**Conclusion/Summary** : No known significant effects or critical hazards.



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**SECTION 12: Ecological information****12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
4,4'-Methylenediphenyl diisocyanate, oligomers	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	0 % - 28 days	-	-
4,4'-methylenediphenyl diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	0 % - 28 days	-	-

**Conclusion/Summary** : No known significant effects or critical hazards.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4,4'-Methylenediphenyl diisocyanate, oligomers	-	-	Not readily
4,4'-methylenediphenyl diisocyanate	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4,4'-methylenediphenyl diisocyanate	-	200	high

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal should be in accordance with applicable regional, national and local laws and regulations. Liquid residues and packages contaminated with those shall be treated as hazardous waste. Dried/cured product, with or without packing material, may be handled as normal industrial waste. Consult the local waste contractor and the local authority about the best way of handling cured adhesive.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)**

Waste code	Waste designation
08 05 01*	waste isocyanates



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## SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	-	-	-	-
Additional information	-	-	-	

14.7 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 Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Benzene, 1,1'-methylenebis[isocyanato-, polymer with 1,2-ethanediamine, methyloxirane and oxirane	Carc. Cat. 3; R40	-	-	-
4,4'-Methylenediphenyl diisocyanate, oligomers	Carc. Cat. 3; R40	-	-	-
Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer, polymer with alpha-hydroomegahydroxypoly(oxy(methyl-1,2-ethanediyl)	Carc. Cat. 3; R40	-	-	-

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## SECTION 15: Regulatory information

4,4'-methylenediphenyl diisocyanate	Carc. Cat. 3; R40	-	-	-
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## SECTION 16: Other information

**Abbreviations and acronyms** : DPD = Dangerous Preparations Directive [1999/45/EC]  
PBT = Persistent, Bioaccumulative and Toxic  
vPvB = Very Persistent and Very Bioaccumulative  
DNEL = Derived No Effect Level  
PNEC = Predicted No Effect Concentration  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

**Full text of abbreviated R phrases** : R40- Limited evidence of a carcinogenic effect.  
R20- Harmful by inhalation.  
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R36/37/38- Irritating to eyes, respiratory system and skin.  
R42/43- May cause sensitisation by inhalation and skin contact.

**Full text of classifications [DSD/DPD]** : Carc. Cat. 3 - Carcinogen category 3  
Xn - Harmful  
Xi - Irritant

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**Version** : 1

**Prepared by** : **Andrea Nyström**

✔ Indicates information that has changed from previously issued version.