

## SAFETY DATA SHEET

Revision Date: 19.04.2018

Print Date: 24.04.2018

SDS Number: 000000232410

BLACK PLASTIC ADHESIVE - PART A

Version: 5.0

Conforms to EU Regulation 1907/2006/EC as amended. - SDSGHS\_GB

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

#### 1.1 Product identifier

Trade name : BLACK PLASTIC ADHESIVE - PART A

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

Recommended use : Adhesives

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

LKQ Coatings  
Newberry House, Michigan Drive  
Tongwell, Milton Keynes  
MK15 8HQ

optimaproducts@lkqcoatings.com

#### 1.4 Emergency telephone number

01908 611117

#### Product Information

01908 611117

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.

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Carcinogenicity, Category 2

H351: Suspected of causing cancer.

Specific target organ toxicity - single exposure, Category 3, Respiratory system

H335: May cause respiratory irritation.

Specific target organ toxicity - repeated exposure, Category 2

H373: May cause damage to organs through prolonged or repeated exposure.

Specific target organ toxicity - repeated exposure, Category 2, Respiratory Tract

H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

, Respiratory system

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



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 :

<b>Prevention:</b>	
P201	Obtain special instructions before use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285	In case of inadequate ventilation wear respiratory protection.

**Response:**

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P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Hazardous components which must be listed on the label:

Methylenediphenyldiisocyanate, isomers and homologues  
 DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER  
 POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

4,4'-Methylenediphenyl diisocyanate  
 MDI (EXCESS) + POLYPROPYLENE GLYCOL

Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(isocyanatobenzyl)phenylisocyanate

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxy-, polymer with 1,1'-methylenebis[4-isocyanatobenzene]

**Additional Labelling:**

EUH204 Contains isocyanates. May produce an allergic reaction.

**2.3 Other hazards**
**Additional advice**

No information available.

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

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
Methylenediphenyldiisocyanate, isomers and homologues	9016-87-9 618-498-9	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335	>= 15,00 - < 20,00

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DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER	25686-28-6 500-040-3 01-2119457013-49-xxxx	STOT RE2; H373 Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1A; H334 Skin Sens.1A; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	>= 10,00 - < 15,00
POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL	53862-89-8	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	>= 10,00 - < 15,00
4,4'-Methylenediphenyl diisocyanate	101-68-8 202-966-0	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	>= 10,00 - < 15,00
MDI (EXCESS) + POLYPROPYLENE GLYCOL	9048-57-1	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	>= 5,00 - < 10,00
Reaction mass of 4,4'- methylenediphenyldiiso cyanate and o- (pisocyanatobenzyl)phe nylisocyanate	905-806-4 01-2119457015-45-xxxx	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	>= 5,00 - < 10,00
Isocyanic acid, polymethylenepolyphen ylene ester, polymer	57029-46-6	Acute Tox.4; H332 Skin Irrit.2; H315 Eye Irrit.2; H319	>= 3,00 - < 5,00

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with .alpha.,.alpha.',.alpha."- 1,2,3- propanetriyltris[.omega. - hydroxypoly[oxy(methyl -1,2-ethanediyl)]]		Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373	
Poly[oxy(methyl-1,2- ethanediyl)], .alpha.,.alpha.',.alpha."- 1,2,3- propanetriyltris[.omega. -hydroxy-, polymer with 1,1'-methylenebis[4- isocyanatobenzene]	52409-10-6 500-115-0	Acute Tox.4; H332 Resp. Sens.1; H334 Skin Sens.1; H317 Carc.2; H351 STOT SE3; H335 STOT RE2; H373 Eye Irrit.2; H319 Skin Irrit.2; H315	>= 1,00 - < 2,50
Substances with a workplace exposure limit :			
Talc	14807-96-6 238-877-9		>= 10,00 - < 15,00

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
Call a physician or poison control centre immediately.  
Keep patient warm and at rest.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.  
If on skin, rinse well with water.  
Wash contaminated clothing before re-use.

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In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.

If swallowed : Obtain medical attention.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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

Symptoms : No symptoms known or expected.

Risks : 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.

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

Treatment : No hazards which require special first aid measures.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

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

Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.  
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide  
Hydrogen cyanide (hydrocyanic acid)  
Isocyanates  
Hydrocarbons  
Nitrogen oxides (NOx)

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Specific extinguishing methods : Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Ensure adequate ventilation.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.  
Comply with all applicable federal, state, and local regulations.

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For further information see Section 8 and Section 13 of the safety data sheet.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Do not breathe vapours/dust.  
Do not smoke.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Container hazardous when empty.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
Smoking, eating and drinking should be prohibited in the application area.  
For personal protection see section 8.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Other data : No decomposition if stored and applied as directed.



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**7.3 Specific end use(s)**

Specific use(s) : No data available

**SECTION 8: Exposure controls/personal protection**
**8.1 Control parameters**
**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Methylenediphenyldiisocyanate, isomers and homologues	9016-87-9	TWA	0,02 mg/m <sup>3</sup> (NCO)	GB EH40
		STEL	0,07 mg/m <sup>3</sup> (NCO)	GB EH40
4,4'-Methylenediphenyl diisocyanate	101-68-8	TWA	0,02 mg/m <sup>3</sup> (NCO)	GB EH40
		STEL	0,07 mg/m <sup>3</sup> (NCO)	GB EH40
Talc	14807-96-6	TWA (Respirable dust)	1 mg/m <sup>3</sup> Respirable dust	GB EH40

**Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
POLYMETHYLENE POLYPHENYL ISOCYANATE	9016-87-9	urinary diamine: 1 µmol/mol creatinine (Urine)	Post task	GB EH40 BAT
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	urinary diamine: 1 µmol/mol creatinine (Urine)	Post task	GB EH40 BAT

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER : Aquatic (marine water)  
 Value: 0,1 mg/l  
 Aquatic (freshwater)  
 Value: 1 mg/l  
 Sewage treatment plant  
 Value: 1 mg/l  
 Aquatic (intermit. releases)

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Value: 10 mg/l

Soil

Value: 1 mg/kg

### 8.2 Exposure controls

#### Engineering measures

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

#### Personal protective equipment

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Hand protection

Remarks : butyl-rubber Nitrile rubber

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:

Impervious clothing

Safety shoes

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Discard gloves that show tears, pinholes, or signs of wear.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Diisocyanates have poor warning properties. An air-purifying respirator with an organic vapor cartridge and an N95 prefilter can be used safely and effectively to reduce exposure, provided that appropriate cartridge change schedules are developed to ensure that cartridges are changed before breakthrough occurs. The employer is required to select the appropriate respirator for each situation and must consider potential exposure to chemicals in addition to diisocyanates.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

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Appearance : viscous

Colour : beige

Odour : No data available

Odour Threshold : No data available

pH :  
Not applicable

Melting point/freezing point : No data available

Boiling point/boiling range : > 200 °C

Flash point : 203 °C

Evaporation rate : < 1  
n-Butyl Acetate = 1

Flammability (solid, gas) : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : < 0,0133 hPa (25 °C)

Relative vapour density : > 1  
(Air = 1.0)

Relative density : No data available

Density : ca. 1,288 g/cm<sup>3</sup> (20 °C)

Solubility(ies)

    Water solubility : practically insoluble, Decomposes in contact with water.

    Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Decomposition temperature : No data available

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Viscosity  
Viscosity, dynamic : ca. 20.000 mPa.s

Viscosity, kinematic : No data available

Oxidizing properties : No data available

**9.2 Other information**

No data available

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

No decomposition if stored and applied as directed.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Product will not undergo hazardous polymerization.

**10.4 Conditions to avoid**Conditions to avoid : excessive heat  
temperatures above 350 degrees F (177 degrees C)  
Freezing temperatures.  
Exposure to moisture**10.5 Incompatible materials**Materials to avoid : Acids  
Alcohols  
alkenes  
aluminum  
Amines  
Ammonia  
Bases  
Copper alloys  
Iron  
strong alkalis  
water  
Zinc  
Aluminium

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**10.6 Hazardous decomposition products**

Hazardous decomposition products : carbon dioxide and carbon monoxide  
 Hydrocarbons  
 Hydrogen cyanide (hydrocyanic acid)  
 Isocyanates  
 Nitrogen oxides (NO<sub>x</sub>)

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

Information on likely routes of exposure : Inhalation  
 Skin contact  
 Eye Contact  
 Ingestion

**Acute toxicity**

Harmful if inhaled.

**Components:**

Methylenediphenyldiisocyanate, isomers and homologues

Acute oral toxicity : LD50 (Rat): &gt; 10.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,24 mg/l  
 Exposure time: 1 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): &gt; 10.000 mg/kg

**Components:**

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
 Method: OECD Test Guideline 425  
 GLP: yes

Acute inhalation toxicity : Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : (Rabbit): > 9.400 mg/kg  
 Remarks: Information given is based on data obtained from similar substances.

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**Components:**

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Acute oral toxicity : LD50 (Rat): &gt; 10.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,24 mg/l  
 Exposure time: 1 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): &gt; 10.000 mg/kg

**Components:**

4,4'-Methylenediphenyl diisocyanate

Acute oral toxicity : LD50 (Rat): 9.200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,369 mg/l  
 Exposure time: 4 h

LC50 (Rat): > 2,24 mg/l  
 Exposure time: 1 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): &gt; 7.900 mg/kg

**Components:**

MDI (EXCESS) + POLYPROPYLENE GLYCOL

Acute oral toxicity : LD50 (Rat): 9.200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,369 mg/l  
 Exposure time: 4 h

LC50 (Rat): > 2,24 mg/l  
 Exposure time: 1 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): &gt; 7.900 mg/kg

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**Components:**

Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(pisocyanatobenzyl)phenylisocyanate

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
 Remarks: Based on a similar product formulation.

Acute inhalation toxicity : LC50 (Rat): 490 mg/m<sup>3</sup>  
 Exposure time: 4 h  
 Remarks: Aerosol  
 Based on a similar product formulation.

**Components:**

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)]]

Acute oral toxicity : LD50 (Rat): > 10.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,24 mg/l  
 Exposure time: 1 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): > 10.000 mg/kg

**Components:**

Talc

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
 Method: OECD Test Guideline 423

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Remarks: May cause skin irritation and/or dermatitis.

**Components:**

Methylenediphenyldiisocyanate, isomers and homologues

Result: Irritating to skin.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Result: Irritating to skin.

Remarks: Information given is based on data obtained from similar substances.

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Result: Irritating to skin.

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4,4'-Methylenediphenyl diisocyanate  
Result: Irritating to skin.

MDI (EXCESS) + POLYPROPYLENE GLYCOL  
Result: No skin irritation

Result: Irritating to skin.

Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(piscyanatobenzyl)phenylisocyanate  
Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Irritating to skin.  
Remarks: Based on a similar product formulation.

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]  
Result: Irritating to skin.

Talc

Species: **reconstructed human epidermis (RhE)**

Result: **No skin irritation**

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Product:**

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

#### **Components:**

Methylenediphenyldiisocyanate, isomers and homologues  
Result: Irritating to eyes.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Result: No eye irritation

Remarks: Information given is based on data obtained from similar substances.

Result: Irritating to eyes.

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Result: Irritating to eyes.

4,4'-Methylenediphenyl diisocyanate

Result: Irritating to eyes.



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MDI (EXCESS) + POLYPROPYLENE GLYCOL

Result: No eye irritation

Result: Irritating to eyes.

Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(piscyanatobenzyl)phenylisocyanate

Result: Irritating to eyes.

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.'.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]

Result: Irritating to eyes.

Talc

Species: **Rabbit**

Method: **OECD Test Guideline 405**

Result: **Slight, transient irritation**

### **Respiratory or skin sensitisation**

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### **Product:**

Remarks: May cause allergic skin reaction.

### **Components:**

Methylenediphenyldiisocyanate, isomers and homologues

Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Test Type: Maximisation Test

Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

4,4'-Methylenediphenyl diisocyanate

Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

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MDI (EXCESS) + POLYPROPYLENE GLYCOL  
Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(pisocyanatobenzyl)phenylisocyanate  
Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)]]  
Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

Talc

Test Type: **Maximisation Test**

Species: **Guinea pig**

Assessment: **Did not cause sensitisation on laboratory animals.**

Method: **OECD Test Guideline 406**

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Genotoxicity in vitro : Test Type: Ames test  
Result: negative  
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Test species: Rat  
Method: OECD Test Guideline 474  
Remarks: Information given is based on data obtained from similar substances.

Talc

Genotoxicity in vitro : Test Type: **In vitro gene mutation study in bacteria**  
Test species: **Salmonella typhimurium**  
Metabolic activation: **with and without metabolic activation**  
Result: **negative**

: Test Type: **In vitro gene mutation study in bacteria**

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Genotoxicity in vivo : Test species: **Saccharomyces cerevisiae**  
 Metabolic activation: **with and without metabolic activation**  
 Result: **negative**

: Test Type: **dominant lethal test**  
 Test species: **Rat (male)**  
 Cell type: **Bone marrow**  
 Result: **negative**

### Carcinogenicity

Suspected of causing cancer.

#### Components:

Methylenediphenyldiisocyanate, isomers and homologues

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

4,4'-Methylenediphenyl diisocyanate

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

MDI (EXCESS) + POLYPROPYLENE GLYCOL

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.'.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies  
 Assessment

### Reproductive toxicity

Not classified based on available information.

#### STOT - single exposure

May cause respiratory irritation.

#### Components:

Methylenediphenyldiisocyanate, isomers and homologues

Exposure routes: Inhalation

Target Organs: Respiratory system

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Assessment: May cause respiratory irritation.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

4,4'-Methylenediphenyl diisocyanate

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

MDI (EXCESS) + POLYPROPYLENE GLYCOL

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]]

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause respiratory irritation.

### **STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

#### **Components:**

Methylenediphenyldiisocyanate, isomers and homologues

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause damage to organs through prolonged or repeated exposure.

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

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4,4'-Methylenediphenyl diisocyanate

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

MDI (EXCESS) + POLYPROPYLENE GLYCOL

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)]]

Exposure routes: Inhalation

Target Organs: Respiratory system

Assessment: May cause damage to organs through prolonged or repeated exposure.

### Aspiration toxicity

Not classified based on available information.

### Further information

#### Product:

Remarks: No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

Methylenediphenyldiisocyanate, isomers and homologues

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3.000 mg/l  
Exposure time: 96 h  
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 24 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l  
Exposure time: 21 d  
End point: Reproduction Test  
Species: Daphnia magna (Water flea)

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Test Type: semi-static test  
 Method: OECD Test Guideline 211

**DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER**

Toxicity to fish : LC50 (*Oryzias latipes* (Japanese medaka)): > 3.000 mg/l  
 Exposure time: 96 h  
 Test Type: semi-static test  
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : (*Daphnia magna* (Water flea)): > 1.000 mg/l  
 Exposure time: 24 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : NOEC (*Desmodesmus subspicatus* (green algae)): 1.640 mg/l  
 End point: Growth inhibition  
 Exposure time: 72 h  
 Test Type: static test  
 Method: OECD Test Guideline 201  
 Remarks: Information given is based on data obtained from similar substances.

**POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL**

Toxicity to fish : LC50 (*Oryzias latipes* (Orange-red killifish)): > 3.000 mg/l  
 Exposure time: 96 h  
 Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 100 mg/l  
 Exposure time: 24 h  
 Test Type: static test  
 Method: OECD Test Guideline 202

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l  
 Exposure time: 21 d  
 End point: Reproduction Test  
 Species: *Daphnia magna* (Water flea)  
 Test Type: semi-static test  
 Method: OECD Test Guideline 211

**4,4'-Methylenediphenyl diisocyanate**

Toxicity to fish : LC50 (*Oryzias latipes* (Orange-red killifish)): > 3.000 mg/l  
 Exposure time: 96 h

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Test Type: semi-static test

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 24 h

Test Type: static test

Method: OECD Test Guideline 202

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l  
Exposure time: 21 d

End point: Reproduction Test

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Remarks: Information given is based on data obtained from similar substances.

**MDI (EXCESS) + POLYPROPYLENE GLYCOL**

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3.000 mg/l  
Exposure time: 96 h

Test Type: semi-static test

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 24 h

Test Type: static test

Method: OECD Test Guideline 202

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l  
Exposure time: 21 d

End point: Reproduction Test

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Remarks: Information given is based on data obtained from similar substances.

**Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(pisocyanatobenzyl)phenylisocyanate**

Toxicity to fish : LC0 (Danio rerio (zebra fish)): > 1 mg/l

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Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 24 h  
Method: OECD Test Guideline 202

Toxicity to bacteria : EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on a similar product formulation.

### 12.2 Persistence and degradability

#### Components:

Methylenediphenyldiisocyanate, isomers and homologues

Biodegradability : Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302C  
Remarks: Information given is based on data obtained from similar substances.

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302C

POLYMERIC MDI (EXCESS) + POLYPROPYLENE GLYCOL

Biodegradability : Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302C  
Remarks: Information given is based on data obtained from similar substances.

4,4'-Methylenediphenyl diisocyanate

Biodegradability : Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 302C  
Remarks: Information given is based on data obtained from similar substances.



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### MDI (EXCESS) + POLYPROPYLENE GLYCOL

Biodegradability : Result: Not biodegradable  
 Biodegradation: 0 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 302C  
 Remarks: Information given is based on data obtained from similar substances.

### Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(pisocyanatobenzyl)phenylisocyanate

Biodegradability : Biodegradation: 0 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 302C  
 Remarks: Information given is based on data obtained from similar substances.

### Talc

Biodegradability : Result: **The methods for determining biodegradability are not applicable to inorganic substances.**

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

#### Product:

Additional ecological information : No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not dispose of waste into sewer.  
 Do not contaminate ponds, waterways or ditches with chemical or used container.  
 Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

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Dispose of as unused product.  
 Empty containers should be taken to an approved waste  
 handling site for recycling or disposal.  
 Do not re-use empty containers.

**SECTION 14: Transport information**

**SECTION 14: Transport information**

**14.1 UN number**

**ADN:** Not dangerous goods

**ADR:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**RID:** Not dangerous goods

**14.2 UN proper shipping name**

**ADN:** Not dangerous goods

**ADR:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**RID:** Not dangerous goods

**14.3 Transport hazard class(es)**

**ADN:** Not dangerous goods

**ADR:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**RID:** Not dangerous goods

**14.4 Packing group**

**ADN:** Not dangerous goods

**ADR:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**RID:** Not dangerous goods

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## 14.5 Environmental hazards

**ADN:** Not applicable

**ADR:** Not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable

**RID:** Not applicable

## 14.6 Special precautions for user

Not applicable

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Ship Type: Not applicable

Hazard code(s): Not applicable

Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

---

## SECTION 15: Regulatory information

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on : Conditions of restriction for the

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the market and use of certain dangerous substances, preparations and articles (Annex XVII)

following entries should be considered:

(3)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

Other regulations

: Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

**The components of this product are reported in the following inventories:**

DSL : This product contains one or several components that are not on the Canadian DSL and have annual quantity limits.

AICS Not in compliance with the inventory

ENCS Not in compliance with the inventory

KECI Not in compliance with the inventory

PICCS Not in compliance with the inventory

IECSC Not in compliance with the inventory

TCSI Not in compliance with the inventory

TSCA Not On TSCA Inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

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### 15.2 Chemical safety assessment

No data available

## SECTION 16: Other information

### Further information

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### Classification procedure:

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

### Full text of H-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.

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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**Sources of key data used to compile the Safety Data Sheet**

Internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

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

ICAO : International Civil Aviation Organization

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

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

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ABM : Water Hazard Class for the Netherlands

ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.

ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine

CLP : Classification, Labelling and Packaging

CSA : Chemical Safety Assessment

CSR : Chemical Safety Report

DNEL : Derived No Effect Level.

EINECS : European Inventory of Existing Commercial Chemical Substances.

ELINCS : European List of Notified Chemical Substances

PEC : Predicted Effect Concentration

PEL : Permissible Exposure Limits

PNEC : Predicted No Effect Concentration

R-phrase : Risk phrase

REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

RID : Regulation Concerning the International Transport of Dangerous Goods by Rail

S-phrase: Safety phrase

WGK : German Water Hazard Class