SAFETY DATA SHEET

according to regulation (EC) No. 1907/2006 (REACH), Appendix II

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

1.1. Product identifier

Trade name or designation of the mixture	Clinched Flange Sealer
Registration number	-
Synonyms	None.
SDS number	8046
Product code	Ford Internal Ref: 102972
Issue date	18-July-2014
Version number	2.0
Revision date	18-July-2014
Supersedes date	18-July-2014
Product use	Professional use

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

Identified uses	Clinched flange sealer based on polyurethane
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	Ford Motor Company Ltd.
Address	Parts Distribution Centre Royal Oak Way South NN11 8NT Daventry, Northants United Kingdom
Telephone number	+44 1327 305 198
Address	Ford-Werke GmbH Edsel-Ford-Str. 2-14 50769 Köln Germany
Telephone number	+49 221 90-33333
e-mail	HSE@rle.de
1.4 Emergency telephone number	+44 1327 305 198 (mo. - fr. 09:00 - 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 as amended

Classification R42

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Respiratory sensitisation	Category 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: 1,1'-methylenebis(4-isocyanatobenzene) homopolymer, 4,4'-Methylenediphenyl diisocyanate, methylenediphenyl diisocyanate

Hazard pictograms

Signal word Danger

Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

Prevention

P261	Avoid breathing mist or vapour.
P285	In case of inadequate ventilation wear respiratory protection.

Response

P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

Storage None.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information EUH204 - Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards The mixture contains no substance that fulfils the criteria of a PBT- or vPvB- substance.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Xylene	1-<5	1330-20-7 215-535-7	-	601-022-00-9	#
Classification:	**DSD:** R10, Xn;R20/21-65, Xi;R38				
	CLP: Flam. Liq. 3;H226, Asp. Tox. 1;H304, Acute Tox. 4;H312, Skin Irrit. 2;H315, Acute Tox. 4;H332				
Alkanes, C9-12-iso-	1-<2	90622-57-4 292-459-0	-	-	
Classification:	**DSD:** R10, Xn;R65, R66, R53				
	CLP: Flam. Liq. 3;H226, Asp. Tox. 1;H304, Aquatic Chronic 4;H413				
1,1'-methylenebis(4-isocyanatobenzene) homopolymer	0.1-<0.5	25686-28-6 500-040-3	01-2119457013-49-XXXX	-	Nota 2, Nota C, H335: C ≥ 5%, H334: C ≥ 0,1%, H315: C ≥ 5%
Classification:	**DSD:** Xn;R20-48/20, Xi;R36/37/38, R42/43				
	CLP: Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Acute Tox. 4;H332, Resp. Sens. 1;H334, STOT SE 3;H335, STOT RE 2;H373				
4,4'-Methylenediphenyl diisocyanate	0.1-<0.5	101-68-8 202-966-0	01-2119457014-47-XXXX	615-005-00-9	Nota 2, Nota C, H335: C ≥ 5%, H334: C ≥ 0,1%, H315: C ≥ 5%, H319: C ≥ 5%, R36/37/38: C ≥ 5%, R42: C ≥ 0,1%
Classification:	**DSD:** Carc. Cat. 3;R40, Xn;R20-48/20, Xi;R36/37/38, R42/43				
	CLP: Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Acute Tox. 4;H332, Resp. Sens. 1;H334, STOT SE 3;H335, Carc. 2;H351, STOT RE 2;H373				

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
methylenediphenyl diisocyanate	0.1-<0.5	26447-40-5 247-714-0	-	615-005-00-9	Nota 2, Nota C, H335: C ≥ 5%, H334: C ≥ 0,1%, H315: C ≥ 5%, H319: C ≥ 5%, R36/37/38: C ≥ 5%, R42: C ≥ 0,1%

Classification: **DSD:** Carc. Cat. 3;R40, Xn;R20-48/20, Xi;R36/37/38, R42/43

CLP: Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Acute Tox. 4;H332, Resp. Sens. 1;H334, STOT SE 3;H335, Carc. 2;H351, STOT RE 2;H373

DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.
#: This substance has workplace exposure limit(s).
Note: Regulation No. 1272/2008 - Annex VI

SECTION 4: First aid measures

General information Get medical attention if any discomfort continues.

4.1. Description of first aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed May cause allergic respiratory reaction. Direct contact with eyes may cause temporary irritation. Mild skin irritation.

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

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

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 Fire may produce irritating, corrosive and/or toxic gases.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures Cool containers exposed to heat with water spray and remove container, if no risk is involved. In case of fire: Stop leak if safe to do so.

Specific methods No unusual fire or explosion hazards noted.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible and place into containers. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Dispose in accordance with all applicable regulations.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid release to the environment. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and open flame.

Storage temperature: between 15 and 25°C.

7.3. Specific end use(s)

Sealing compound

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0.07 mg/m3
	TWA	0.02 mg/m3
Xylene (CAS 1330-20-7)	STEL	441 mg/m3 100 ppm
	TWA	220 mg/m3 50 ppm

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm
	TWA	221 mg/m3 50 ppm

Biological limit values

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling time
Xylene (CAS 1330-20-7)	650 mmol/mol	Methyl hippuric acid	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Professional	Inhalation	0.1 mg/m3	short term, local
		Inhalation	0.05 mg/m3	long term, local
Xylene (CAS 1330-20-7)	Consumer	Dermal	108 mg/kg/day	Long term exposure systemic effects
		Inhalation	174 mg/m3	Short term exposure - local effects
		Inhalation	174 mg/m3	Short term exposure - systemic effects
		Inhalation	14.8 mg/m3	Long term exposure systemic effects
		Oral	1.6 mg/kg/day	Long term exposure systemic effects

Components	Type	Route	Value	Form
	Professional	Dermal	180 mg/kg/day	Long term exposure systemic effects
		Inhalation	77 mg/m3	Long term exposure systemic effects
		Inhalation	77 mg/m3	Long term Local effects
		Inhalation	289 mg/m3	Short term exposure - local effects
		Inhalation	289 mg/m3	Short term exposure - systemic effects

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Not applicable	Freshwater	1 mg/l	
		Seawater	0.1 mg/l	
		Soil	1 mg/kg	
		STP	1 mg/l	
Xylene (CAS 1330-20-7)	Not applicable	Floor	0.00231 mg/g	
		Sediment	0.01246 mg/g	Sweet water
		Water	0.327 mg/l	Sweet water

Exposure guidelines

UK EH40 WEL: Skin designation

Xylene (CAS 1330-20-7) Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Use protective skin cream before handling the product.

Eye/face protection

Chemical goggles are recommended.

Skin protection

- Hand protection

Nitrile rubber

Glove thickness 0,4mm.
Break through time >= 480min.

Glove recommendation: Camatril Velours® 730 (Kächele-Cama GmbH, source of supply see www.kcl.de) or comparable product.

Hand protection in case of splash contact
Nitrile rubber

Glove thickness 0,4mm.
Break through time >= 480min

Glove recommendation: Camatril Velours® 730 (Kächele-Cama GmbH, source of supply see www.kcl.de) or comparable product.

The protective gloves to be used must comply with the specification of EU directive 89/686/EC and the resultant standard EN374. The above given information is based on laboratory test in line with EN374. The recommendation is only valid for the supplied product and the stated application. Special working conditions, like heat or mechanical strain, which deviate from the test conditions, can reduce the protective effect provided by the recommended glove.

- Other

Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Wear a full face respirator conforming to EN136 with Type A filter or better.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls	Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Paste.
Colour	White.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Ignition temperature	> 200 °C (> 392 °F)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 100.0 °C (> 212.0 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	0.4 %
Explosive limit – upper (%)	7.6 %
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Density	1.17 g/cm3
VOC (EU)	5.9 %
VOC (CH)	5.9 %

SECTION 10: Stability and reactivity

10.1. Reactivity	A rapid exothermic polymerization reaction occurs in the presence of water, amines, alkaline substances and alcoh
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	Moisture. Temperatures exceeding the decomposition temperature. Avoid heat, sparks, open flames and other ignition sources.
10.5. Incompatible materials	None known.
10.6. Hazardous decomposition products	Isocyanates

SECTION 11: Toxicological information

General information	Not available.
Information on likely routes of exposure	
Ingestion	Not available.

Inhalation	May cause sensitisation by inhalation.
Skin contact	Not available.
Eye contact	Not available.
Symptoms	Not available.

11.1. Information on toxicological effects

Product	Species	Test results
Clinched Flange Sealer (CAS Mixture)		
Dermal		
		> 5000 mg/kg (calcd. ATE)
Inhalation		
		> 20 mg/l/4h (calcd. ATE)
Oral		
		> 5000 mg/kg (calcd. ATE)

Components	Species	Test results
1,1'-methylenebis(4-isocyanatobenzene) homopolymer (CAS 25686-28-6)		
Acute		
Dermal		
LD50	Rabbit	> 9400 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)		
Acute		
Dermal		
LD50	Rabbit	> 9400 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	1100 mg/kg
Inhalation		
LC50	Rat	11 mg/m3, 4 hours
Oral		
LD50	Mouse	> 4000 mg/kg

Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.
Respiratory sensitisation	Not available.
Skin sensitisation	Not available.
Germ cell mutagenicity	Not available.
Carcinogenicity	Not available.
Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity

Components		Species	Test results
1,1'-methylenebis(4-isocyanatobenzene) homopolymer (CAS 25686-28-6)			
Aquatic			
Crustacea	NOEC	Daphnia magna	> 10 mg/l, 21 days
Fish	LC0	Fish	> 3000 mg/l, 96 hours
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)			
Aquatic			
Algae	NOEC	Desmodesmus subspicatus(reported as Scenedesmus subspicatus)	1640 mg/l, 3 days
Crustacea	NOEC	Daphnia magna	> 10 mg/l, 21 days
Fish	LC50	Danio rerio	> 1000 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Algae	EC50	Algae	4.36 mg/l, 73 hours (OECD 201)
Crustacea	EC50	Ceriodaphnia dubia	> 3.4 mg/l, 48 hours (OECD 202)
	NOEC	Ceriodaphnia dubia	3.4 mg/l, 48 hours (OECD 202)
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.6 mg/l, 96 hours (OECD 203)

12.2. Persistence and degradability

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol /water (log Kow)

Xylene	3.12 - 3.2

Bioconcentration factor (BCF)

4,4'-Methylenediphenyl diisocyanate	92

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment The mixture contains no substance that fulfils the criteria of a PBT- or vPvB- substance.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
08 04 09
15 01 06

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)
methylenediphenyl diisocyanate (CAS 26447-40-5)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)
methylenediphenyl diisocyanate (CAS 26447-40-5)

Other EU regulations

Directive 94/33/EC on the protection of young people at work

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)
methylenediphenyl diisocyanate (CAS 26447-40-5)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)
methylenediphenyl diisocyanate (CAS 26447-40-5)
Xylene (CAS 1330-20-7)

EU Directive 96/82/EC - Control of Major Accident Hazards: Threshold quantities established for the application of Articles 6 and 7

Xylene (CAS 1330-20-7)	5000 TONNES

National regulations

VOC (EU):	5.9 %
15.2. Chemical safety assessment	Not available.

Water hazard class

VwVwS	WGK1

SECTION 16: Other information

List of abbreviations	Not available.
References	Not available.
Information on evaluation method leading to the classification of mixture	Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15	R10 Flammable. R20 Harmful by inhalation. R20/21 Harmful by inhalation and in contact with skin. R36/37/38 Irritating to eyes, respiratory system and skin. R38 Irritating to skin. R40 Limited evidence of a carcinogenic effect. R42 May cause sensitisation by inhalation. R42/43 May cause sensitisation by inhalation and skin contact. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R53 May cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness or cracking. H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. 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. H413 May cause long lasting harmful effects to aquatic life.
Revision information	None.
Training information	Not available.

Attachment to the Safety Data Sheet

Involved Products:

	Finiscode	Part number	Container Size:
1.	1 790 195	1S5J M4G245 AB	310 ml