ZipSeal

Flyleaf

Date of compilation: 2020-10-26

Bill of materials

Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
ZipSeal Part A		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 SE 3 / H335 STOT RE 2 / H373		2 – 16
ZipSeal Part B		1	Acute Tox. 4 / H302 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Aquatic Chronic 3 / H412		17 – 31

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

ZipSeal Part A

Version number: 1.0 Date of compilation: 2020-07-08

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

1.1 Product identifier

Trade name **ZipSeal Part A**

Registration number (REACH) not relevant (mixture)

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

Relevant identified uses Professional use

1.3 Details of the supplier of the safety data sheet

Polywater Europe BV
Zuidhaven 9-11 Unit B2
4761 CR Zevenbergen
Netherlands

Telephone: +31 (0)10 2330578
e-mail: sds@polywater.com
Website: www.polywater.com

e-mail (competent person) sds@polywater.com

1.4 Emergency telephone number

Emergency information service +31 (0)10 2330578
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre

Country	Name	Telephone
United Kingdom	NHS (general public)	non-emergency: 111 or a doctor; emergency: 999

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4R	respiratory sensitisation	1	Resp. Sens. 1	H334
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.6	carcinogenicity	2	Carc. 2	H351
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

Code	Supplemental hazard information
EUH204	contains isocyanates. May produce an allergic reaction

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- 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/hearing protection/....
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTRE/doctor if you feel unwell.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

- supplemental hazard information

EUH204 Contains isocyanates. May produce an allergic reaction.

- hazardous ingredients for labelling 4,4'-methylenediphenyl diisocyanate; 4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures

2.3 Other hazards

Of no significance.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain any (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes	Specific Conc. Limits	M-Factors
4,4'-methylenediphenyl diisocyanate	CAS No 101-68-8 EC No 202-966-0 Index No 615-005-00-	30 – 60	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317		2 C(b) GHS-HC	Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; H335: C ≥ 5 %	

Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Picto-grams	Notes	Specific Conc. Limits	M-Factors
	9 REACH Reg. No 01-2119457014-47-xxxx		Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373 EUH204				
4,4' diphenyl-methanediisocy-anate, isomere, homologe and mixtures	CAS No 9016-87-9 EC No 618-498-9	30 – 60	Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Carc. 2 / H351 STOT SE 3 / H335 STOT RE 2 / H373 EUH204				

Notes

2: The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.

C(b): The substance is a specific isomer. The mixture of isomers is mentioned in Part 3 of the Regulation (EC) No 1272/2008

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

Remarks

For full text of H-phrases: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. In all cases of doubt, or when symptoms persist, seek medical advice. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder; Carbon dioxide (CO_2)

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen cyanide (HCN, prussic acid). Hydrocarbons.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- specific designs for storage rooms or vessels
- storage temperature

Recommended storage temperature: 18 – 27 °C

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
GB	isocyanates, compounds	101-68-8	WEL		0.02		0.07	NCO	EH40/2005

Notation

NCO	measured total-NCO (isocyanate)
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Biological limit values

Biological limit values						
Country	**Name of agent**	**Parameter**	**Nota-tion**	**Identifier**	**Value**	**Source**
GB	Isocyanates (applies to HDI, IPDI, TDI and MDI)	isocyanate-derived diamine	crea	BMGV	1 µmol/mol	EH40/2005

Notation
crea creatinine

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture						
Name of substance	**CAS No**	**End-point**	**Threshold level**	**Protection goal, route of exposure**	**Used in**	**Exposure time**
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.05 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.025 mg/m³	human, inhalatory	consumer (private households)	chronic - local effects
4,4'-methylenediphenyl diisocyanate	101-68-8	DNEL	0.05 mg/m³	human, inhalatory	consumer (private households)	acute - local effects

Relevant PNECs of components of the mixture						
Name of substance	**CAS No**	**End-point**	**Threshold level**	**Organism**	**Environmental compartment**	**Exposure time**
4,4'-methylenediphenyl diisocyanate	101-68-8	PNEC	1 mg/l	aquatic organisms	freshwater	short-term (single instance)
4,4'-methylenediphenyl diisocyanate	101-68-8	PNEC	0.1 mg/l	aquatic organisms	marine water	short-term (single instance)
4,4'-methylenediphenyl diisocyanate	101-68-8	PNEC	1 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
4,4'-methylenediphenyl diisocyanate	101-68-8	PNEC	1 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection (EN 166).

Skin protection

Protective clothing (EN 340 & EN ISO 13688).

- hand protection

Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protection gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of

several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	brown
Odour	mild

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	not determined
Flash point	160 °C (c.c.)
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapour pressure	not determined
Density	not determined
Vapour density	this information is not available
Relative density	1.22 at 25 °C (water = 1)
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined

Viscosity

- dynamic viscosity	250 cP at 25 °C

Explosive properties	none
Oxidising properties	none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Polymerises in contact with water, releasing excess pressure or heat. Exothermic reaction with substances which contain active hydrogen.

10.4 Conditions to avoid

Extreme temperatures (low and high). Moisture.

10.5 Incompatible materials

Water. Acids. Bases. Oxidisers. Amines. Metals.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if inhaled.

- acute toxicity estimate (ATE)

Exposure route	ATE
Inhalation: vapour	18.33 $^{mg}/_{l}$/4h

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
4,4'-methylenediphenyl diisocyanate	101-68-8	inhalation: dust/mist	0.368 $^{mg}/_{l}$/4h
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	inhalation: vapour	11 $^{mg}/_{l}$/4h
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	inhalation: dust/mist	1.5 $^{mg}/_{l}$/4h

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
4,4'-methylenediphenyl diisocyanate	101-68-8	oral	LD50	>2,000 $^{mg}/_{kg}$	rat
4,4'-methylenediphenyl diisocyanate	101-68-8	inhalation: dust/mist	LC50	368 $^{mg}/_{m^3}$/4h	rat
4,4'-methylenediphenyl diisocyanate	101-68-8	dermal	LD50	>9,400 $^{mg}/_{kg}$	rabbit
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	oral	LD50	>10,000 $^{mg}/_{kg}$	rat
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	dermal	LD50	9,400 $^{mg}/_{kg}$	rabbit
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	inhalation: dust/mist	LC50	0.49 $^{mg}/_{l}$/4h	rat
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	inhalation: vapour	LC50	2.24 $^{mg}/_{l}$/1h	rat
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	inhalation: vapour	LC50	0.387 $^{mg}/_{l}$/4h	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
4,4'-methylenediphenyl diisocyanate	101-68-8	LC50	>1,000 $^{mg}/_{l}$	fish	96 h
4,4'-methylenediphenyl diisocyanate	101-68-8	EC50	129.7 $^{mg}/_{l}$	aquatic invertebrates	24 h
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	LC50	>1,000 $^{mg}/_{l}$	zebra fish	96 h
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	EC50	>1,000 $^{mg}/_{l}$	water flea (Daphnia)	24 h
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	9016-87-9	NOEC	1,640 $^{mg}/_{l}$	desmodesmus subspicatus (green algea)	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
4,4'-methylenediphenyl diisocyanate	101-68-8	ErC50	>1,640 $^{mg}/_{l}$	algae	3 d
4,4'-methylenediphenyl diisocyanate	101-68-8	EC50	>100 $^{mg}/_{l}$	microorganisms	3 h
4,4'-methylenediphenyl diisocyanate	101-68-8	NOEC	≥10 $^{mg}/_{l}$	aquatic invertebrates	21 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number	not subject to transport regulations
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	none
14.4 Packing group	not assigned to a packing group
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

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

No data available.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	Restriction	No
ZipSeal Part A	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3
4,4'-methylenediphenyl diisocyanate	4,4'-methylenediphenyl diisocyanate	R56	56a

Legend

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash-trays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:

Legend

- can be used as fuel in decorative oil lamps for supply to the general public, and,
- present an aspiration hazard and are labelled with R65 or H304,

4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

R56 1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:
(a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC (9);
(b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:
'- Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
- Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
- This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.'
2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
4,4'-methylenediphenyl diisocyanate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	
4,4' diphenylmethanediisocyanate, isomere, homologe and mixtures	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	

Legend

A) Indicative list of the main pollutants

Regulation 98/2013/EU on the marketing and use of explosives precursors

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")

Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	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.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

ZipSeal Part B

Version number: 1.0 Date of compilation: 2020-07-15

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

1.1 Product identifier

Trade name **ZipSeal Part B**

Registration number (REACH) not relevant (mixture)

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

Relevant identified uses Professional use

1.3 Details of the supplier of the safety data sheet

Polywater Europe BV
Zuidhaven 9-11 Unit B2
4761 CR Zevenbergen
The Netherlands

Telephone: +31 (0)10 2330578
e-mail: sds@polywater.com
Website: www.polywater.com

e-mail (competent person) sds@polywater.com

1.4 Emergency telephone number

Emergency information service +31 (0)10 2330578
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre		
Country	**Name**	**Telephone**
United Kingdom	NHS (general public)	non-emergency: 111 or a doctor; emergency: 999

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard state-ment
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	skin sensitisation	1	Skin Sens. 1	H317
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word Warning
- pictograms

GHS07

- hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

- precautionary statements

P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

- hazardous ingredients for labelling: Polyether polyol mixture; Tris(1-chloro-2-propyl) phosphate; Propylidynetrimethanol, propoxylated, reaction products with ammonia

2.3 Other hazards

Of no significance.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain any (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes	Specific Conc. Limits	M-Factors
Polyether polyol mixture		≥ 60	Acute Tox. 4 / H302 Eye Irrit. 2 / H319 Skin Sens. 1 / H317				
Tris(1-chloro-2-propyl) phosphate	CAS No 13674-84-5 EC No 237-158-7	10 – 30	Acute Tox. 4 / H302				
Propylidynetrimethanol, propoxylated, reaction products with ammonia	CAS No 39423-51-3 EC No 500-105-6 REACH Reg. No 01-2119556886-20-xxxx	1 – 5	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Eye Dam. 1 / H318 Aquatic Chronic 2 / H411				

Remarks

For full text of H-phrases: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Induce vomiting when the affected person is not unconscious. Call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder; Carbon dioxide (CO_2)

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO_2). Phosphorus oxides (P_xO_y). Hydrogen chloride (HCl). Hydrogen halides (HX). Silicon oxides.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

7.3 Specific end use(s)

See technical data sheet on this product for further information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
GB	carbon black	1333-86-4	WEL		3.5		7		EH40/2005

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	5.82 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	5.82 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	2.08 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	2.08 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	1.46 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	1.46 mg/m³	human, inhalatory	consumer (private households)	acute - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	1.04 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	1.04 mg/kg bw/day	human, dermal	consumer (private households)	acute - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	0.52 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Tris(1-chloro-2-propyl) phosphate	13674-84-5	DNEL	0.52 mg/kg bw/day	human, oral	consumer (private households)	acute - systemic effects
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	DNEL	14.1 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	DNEL	1.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	7.84 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	0.42 mg/l	aquatic organisms	freshwater	short-term (single instance)
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	0.42 mg/l	aquatic organisms	marine water	short-term (single instance)
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	2.96 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	2.96 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Tris(1-chloro-2-propyl) phosphate	13674-84-5	PNEC	1.33 mg/kg	terrestrial organisms	soil	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	0.004 mg/l	aquatic organisms	freshwater	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	0.016 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	0.002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	PNEC	0.001 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection (EN 166).

Skin protection

Protective clothing (EN 340 & EN ISO 13688).

- hand protection

Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protec-

tion gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	grey - black
Odour	mild - Amine

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	>200 °C
Flash point	182.2 °C
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapour pressure	not determined
Density	not determined
Vapour density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined

Viscosity

- dynamic viscosity	650 cP at 25 °C

Explosive properties	none
Oxidising properties	none

9.2 Other information

VOC Content: 0 g/L.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, moisture, frost.

10.5 Incompatible materials

Acids. Bases. Oxidisers. Isocyanate.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed.

- acute toxicity estimate (ATE)

Exposure route	ATE
Oral	379.8 $^{mg}/_{kg}$

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	**CAS No**	**Exposure route**	**ATE**
Polyether polyol mixture		oral	500 $^{mg}/_{kg}$
Tris(1-chloro-2-propyl) phosphate	13674-84-5	oral	500 $^{mg}/_{kg}$

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	oral	550 $^{mg}/_{kg}$
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	dermal	1,000 $^{mg}/_{kg}$

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Tris(1-chloro-2-propyl) phosphate	13674-84-5	oral	LD50	4,200 $^{mg}/_{kg}$	rat
Tris(1-chloro-2-propyl) phosphate	13674-84-5	dermal	LD50	>2,000 $^{mg}/_{kg}$	rabbit
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	oral	LD50	550 $^{mg}/_{kg}$	rat
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	dermal	LD50	>1,000 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Tris(1-chloro-2-propyl) phosphate	13674-84-5	LC50	98 mg/l	fish	96 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	EC50	131 mg/l	aquatic invertebrates	48 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	ErC50	82 mg/l	algae	72 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	NOEC	9.8 mg/l	fish	96 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	growth rate (ErCx) 10%	42 mg/l	algae	72 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	growth (EbCx) 10%	14 mg/l	algae	72 h
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	LC50	>100 mg/l	fish	96 h
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	EC50	13 mg/l	aquatic invertebrates	48 h
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	ErC50	4.4 mg/l	algae	72 h
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	NOEC	≥18 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Tris(1-chloro-2-propyl) phosphate	13674-84-5	LC50	74 mg/l	fish	168 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	EC50	784 mg/l	microorganisms	3 h
Tris(1-chloro-2-propyl) phosphate	13674-84-5	NOEC	32 mg/l	aquatic invertebrates	21 d
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	EC50	1,000 mg/l	microorganisms	30 min
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	growth (EbCx) 20%	130 mg/l	microorganisms	30 min

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3	oxygen depletion	<5 %	5 d		ECHA

12.3 Bioaccumulative potential

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Tris(1-chloro-2-propyl) phosphate	13674-84-5	≥0.8 – ≤2.8	2.68	
Propylidynetrimethanol, propoxylated, reaction products with ammonia	39423-51-3		-1.13 (pH value: 12.7, 20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number	not subject to transport regulations
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	none
14.4 Packing group	not assigned
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

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

No data available.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR. Not subject to RID. Not subject to ADN.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	Restriction	No
ZipSeal Part B	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3

Legend

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
- can be used as fuel in decorative oil lamps for supply to the general public, and,
- present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Tris(1-chloro-2-propyl) phosphate	Organohalogen compounds and substances which may form such compounds in the aquatic environment		A)	
Tris(1-chloro-2-propyl) phosphate	Organophosphorous compounds		A)	

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Tris(1-chloro-2-propyl) phosphate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		A)	

Legend
A) Indicative list of the main pollutants

Regulation 98/2013/EU on the marketing and use of explosives precursors

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control

Abbr.	Descriptions of used abbreviations
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.