

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Heraeus

PD 955 PY SMT-ADHESIVE, 325 G, S8

Version
10.0

Revision Date:
29.09.2020

Date of last issue: 03.08.2020
Date of first issue: 09.02.2017

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

1.1 Product identifier

Trade name : PD 955 PY SMT-ADHESIVE, 325 G, S8
Product code : 89950461

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

Use of the Sub-
stance/Mixture : Industrial use
≤ 5 L

1.3 Details of the supplier of the safety data sheet

Company : Heraeus Romania S.R.L.
Parcul Industrial INCONTRO
307221 Chisoda
Telephone : +40256301403
E-mail address of person
responsible for the SDS : sds@heraeus.com
(Heraeus Holding: EHS Chemical Safety)

1.4 Emergency telephone number

Emergency telephone num-
ber : +49 6132-84463
International Emergency Number
This telephone number is available 24 hours per day, 7 days
per week.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

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H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

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 components which must be listed on the label:

Bisphenol-F-epichlorhydrin-epoxy resin
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)
4,4'-isopropylidenediphenol

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture
organic

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	25068-38-6 500-033-5 603-074-00-8 01-2119456619-26-XXXX	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 25 - < 30$
Bisphenol-F-epichlorhydrin-epoxy resin	9003-36-5 500-006-8 01-2119454392-40-XXXX	Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 25 - < 30$

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4,4'-isopropylidenediphenol	80-05-7 201-245-8 604-030-00-0	Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 1B; H360F STOT SE 3; H335 Aquatic Chronic 2; H411	>= 0.1 - < 0.25
Substances with a workplace exposure limit :			
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6 238-877-9		>= 1 - < 5

The registration numbers listed here are valid if the company listed in Chapter 1 is located in the EU. For ingredients without a registration number there is no registration, because due to the annual amount no registration is required or the substance or its use according to Article 2 of the REACH Regulation (EC 1907/2006) is excluded from registration.

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : First aider needs to protect himself.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
Get medical attention.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off with:
Polyethylene glycol 400.
Obtain medical attention.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing.
Protect unharmed eye.
Call a physician immediately.
- If swallowed : Immediately give large quantities of water to drink.
Do NOT induce vomiting.
Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.

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4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Metal oxides
Silicon oxides

5.3 Advice for firefighters

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

Further information : Use a water spray to cool fully closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Follow safe handling advice and personal protective equipment recommendations.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Do not allow contact with soil, surface or ground water. Do not let product enter drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Sweep up or vacuum up spillage and collect in suitable con-

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tainer for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area.
- Hygiene measures : Keep away from food and drink. Wash hands before breaks and at the end of workday. Keep working clothes separately. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep tightly closed in a dry, cool and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

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
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	TWA (Respirable dust)	1 mg/m ³	GB EH40
		Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour,		

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	deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
4,4'-isopropylidenediphenol	80-05-7	TWA (inhalable fraction)	2 mg/m ³	2017/164/EU
	Further information: Indicative			
		TWA	2 mg/m ³	GB EH40
	Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Bisphenol-F-epichlorhydrin-epoxy resin	Workers	Inhalation	Long-term systemic effects	29.39 mg/m ³
	Workers	Skin contact	Long-term systemic effects	104.15 mg/kg bw/day
	Workers	Skin contact	Acute local effects	0.0083 mg/cm ²
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Consumers	Inhalation	Long-term systemic effects	8.7 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	62.5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	6.25 mg/kg bw/day
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Workers	Inhalation	Long-term systemic effects	12.25 mg/m ³
	Workers	Inhalation	Acute local effects	12.25 mg/m ³
	Workers	Skin contact	Long-term systemic effects	8.33 mg/kg bw/day
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Workers	Skin contact	Acute local effects	8.33 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects	3.571 mg/kg bw/day
	Consumers	Skin contact	Acute local effects	3.571 mg/kg bw/day
Consumers	Ingestion	Long-term systemic	0.75 mg/kg	

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			effects	bw/day
	Consumers	Ingestion	Acute local effects	0.75 mg/kg bw/day
4,4'-isopropylidenediphenol	Workers	Inhalation	Long-term systemic effects	2 mg/m ³
	Workers	Inhalation	Acute systemic effects	2 mg/m ³
	Workers	Inhalation	Long-term local effects	2 mg/m ³
	Workers	Inhalation	Acute local effects	2 mg/m ³
	Workers	Skin contact	Long-term systemic effects	0.031 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	0.031 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1 mg/m ³
	Consumers	Inhalation	Acute systemic effects	1 mg/m ³
	Consumers	Inhalation	Long-term local effects	1 mg/m ³
	Consumers	Inhalation	Acute local effects	1 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	0.002 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	0.002 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.004 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0.004 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Bisphenol-F-epichlorhydrin-epoxy resin	Fresh water	0.003 mg/l
	Marine water	0.0003 mg/l
	Intermittent use/release	0.0254 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.294 mg/kg
	Marine sediment	0.0294 mg/kg
	Soil	0.237 mg/kg
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Fresh water	0.006 mg/l
	Marine water	0.0006 mg/l
	Intermittent use/release	0.018 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.996 mg/kg
	Soil	0.196 mg/kg
4,4'-isopropylidenediphenol	Fresh water	0.018 mg/l
	Marine water	0.018 mg/l

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	Intermittent use/release	0.011 mg/l
	Sewage treatment plant	320 mg/l
	Fresh water sediment	1.2 mg/kg
	Marine sediment	0.24 mg/kg
	Soil	3.7 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields
Hand protection

Remarks : Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Recommended Filter type:
Filter type ABEK-P

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : paste
Colour : yellow
Odour : mild
Odour Threshold : No data available

pH : Not applicable

Melting point/range : No data available

Boiling point/boiling range : > 200 °C (1,013 hPa)

Flash point : > 100 °C(1,013 hPa)

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

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Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	<= 1,100 hPa (50 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.299 g/cm ³ (23 °C, 1,013 hPa)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 40 mm ² /s (23 °C) > 20.5 mm ² /s (40 °C)
Explosive properties	:	Not applicable
Oxidizing properties	:	No data available

9.2 Other information

Self-ignition : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

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Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Bisphenol-F-epichlorhydrin-epoxy resin:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

4,4'-isopropylidenediphenol:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 0.17 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 2,230 mg/kg

Talc (Mg₃H₂(SiO₃)₄):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

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Skin corrosion/irritation

Causes skin irritation.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Rabbit
Result : Skin irritation

4,4'-isopropylidenediphenol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Talc ($Mg_3H_2(SiO_3)_4$):

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Result : Irritation to eyes, reversing within 21 days
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Rabbit
Result : No eye irritation

4,4'-isopropylidenediphenol:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

Talc ($Mg_3H_2(SiO_3)_4$):

Species : Rabbit
Result : No eye irritation

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Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

Bisphenol-F-epichlorhydrin-epoxy resin:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

4,4'-isopropylidenediphenol:

Assessment : Probability or evidence of skin sensitisation in humans
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

Talc ($Mg_3H_2(SiO_3)_4$):

Exposure routes : Skin contact
Species : Humans
Result : negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian spermatogonial chromosome aberra-

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tion test (in vivo)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Bisphenol-F-epichlorhydrin-epoxy resin:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: positive

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Test Type: Mammalian spermatogonial chromosome aberration test (in vivo)
Species: Hamster
Application Route: Ingestion
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

4,4'-isopropylidenediphenol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Mouse
Application Route: Ingestion
Result: negative

Talc (Mg₃H₂(SiO₃)₄):

Genotoxicity in vitro : Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat
Application Route: Ingestion
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Species : Rat

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Application Route : Ingestion
Exposure time : 24 month(s)
Method : OECD Test Guideline 453
Result : negative
Remarks : Based on data from similar materials

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Mouse
Application Route : Skin contact
Exposure time : 104 weeks
Result : negative

4,4'-isopropylidenediphenol:

Species : Rat
Application Route : Ingestion
Exposure time : 103 weeks
Result : negative

Talc (Mg₃H₂(SiO₃)₄):

Species : Mouse
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 Years
Result : negative

Reproductive toxicity

Not classified based on available information.

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Bisphenol-F-epichlorhydrin-epoxy resin:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion

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Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

4,4'-isopropylidenediphenol:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: positive

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

Talc (Mg₃H₂(SiO₃)₄):

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure

Not classified based on available information.

Components:

4,4'-isopropylidenediphenol:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Species : Rat
NOAEL : 50 mg/kg
LOAEL : 250 mg/kg
Application Route : Ingestion

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Version
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Exposure time : 14 Weeks
Method : OECD Test Guideline 408
Remarks : Based on data from similar materials

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Rat
NOAEL : 250 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks
Method : OECD Test Guideline 408

4,4'-isopropylidenediphenol:

Species : Rat
LOAEL : 120 mg/kg
Application Route : Ingestion
Exposure time : 2 yr

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.2 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.1 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): > 11 mg/l
Exposure time: 72 h

NOEC (Scenedesmus capricornutum (fresh water algae)): 4.2 mg/l
Exposure time: 72 h

Toxicity to microorganisms : IC50 : > 100 mg/l
Exposure time: 3 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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Bisphenol-F-epichlorhydrin-epoxy resin:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 62.5 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
- Toxicity to microorganisms : IC50 : > 100 mg/l
Exposure time: 3 h
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

4,4'-isopropylidenediphenol:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 10.2 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 2.73 mg/l
Exposure time: 96 h
- EC10 (Pseudokirchneriella subcapitata (green algae)): 1.36 mg/l
Exposure time: 96 h
- Toxicity to microorganisms : EC10 (Pseudomonas putida): > 320 mg/l
Exposure time: 18 h
- Toxicity to fish (Chronic toxicity) : NOEC: 100 µg/l
Exposure time: 49 d
Species: Cyprinus carpio (Carp)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.37 mg/l
Exposure time: 28 d
Species: Mysidopsis bahia (opossum shrimp)
Method: OPPTS 850.1350

Talc (Mg3H2(SiO3)4):

- Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l
Exposure time: 24 h

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12.2 Persistence and degradability

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bisphenol-F-epichlorhydrin-epoxy resin:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: Regulation (EC) No. 440/2008, Annex, C.4-E

4,4'-isopropylidenediphenol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Components:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

Partition coefficient: n- : log Pow: 3.26
octanol/water

Bisphenol-F-epichlorhydrin-epoxy resin:

Partition coefficient: n- : log Pow: 3.6
octanol/water

4,4'-isopropylidenediphenol:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 5.1 - 67

Partition coefficient: n- : log Pow: 3.4
octanol/water

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

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0.1% or higher..

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : When carried in single packaging or inner packaging of 5kg/5L or less, this material is not subject to the transport regulations, the single packaging or inner packaging must not be UN-approved but must be a good quality packaging and suitable for the medium.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3
4,4'-isopropylidenediphenol (Number on list 66, 30)

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4,4'-isopropylidenediphenol (Number
on list 66, 30)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : 4,4'-isopropylidenediphenol
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
Storage class (TRGS 510) : 10: Combustible liquids

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

E2 ENVIRONMENTAL
HAZARDS

Other regulations:

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

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

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H360F : May damage fertility.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT SE : Specific target organ toxicity - single exposure
2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values

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GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
2017/164/EU / TWA : Limit Value - eight hours
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific

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material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN