

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



2K TIN SOLDER REPLACEMENT - 180 ML (Filler 120 ML)

Version	Revision Date:	SDS Number:	Date of last issue: 01.12.2016
1.4	15.02.2017	772208-00005	Date of first issue: 21.06.2016

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

1.1 Product identifier

Trade name : 2K TIN SOLDER REPLACEMENT - 180 ML (Filler 120 ML)
Product code : 0892610180

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

Use of the Sub-
stance/Mixture : Putty/filler

1.3 Details of the supplier of the safety data sheet

Company : Adolf Wuerth GmbH & Co. KG
Reinhold-Würth-Str. 12-17
74653 Künzelsau

Telephone : +49 794015 0

Telefax : +49 794015 10 00

E-mail address of person
responsible for the SDS : prodsafe@wuerth.com

1.4 Emergency telephone number

Giftnotrufzentrale Berlin +49 30 30686 790. Gesellschaft (07:00 – 18:00 Uhr) +49 794015 2552

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.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Hazardous components which must be listed on the label:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)
Bisphenol-F-epichlorhydrin-epoxy resin
Alkyl (C12-C14) Glycidyl Ethers

Additional Labelling

EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous 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	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 25 - < 30$

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Bisphenol-F-epichlorhydrin-epoxy resin	9003-36-5 500-006-8 01-2119454392-40	Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 2,5 - < 10
Alkyl (C12-C14) Glycidyl Ethers	68609-97-2 271-846-8 603-103-00-4 01-2119485289-22	Skin Irrit. 2; H315 Skin Sens. 1; H317	>= 1 - < 10
Solvent naphtha (petroleum), light arom.	Not Assigned 265-199-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2,5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

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 and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Carbon oxides
Metal oxides
Sulphur 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.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents

Storage class (TRGS 510) : 11, Combustible Solids

7.3 Specific end use(s)

Specific use(s) : No data available

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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	14807-96-6	AGW (Inhalable fraction)	10 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Aluminium	7429-90-5	AGW (Inhalable fraction)	10 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Solvent naphtha (petroleum), light arom.	Not Assigned	AGW	100 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			

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Exposure factor (category)				
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned	AGW	600 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Workers	Inhalation	Long-term systemic effects	1500 mg/m ³
	Workers	Skin contact	Long-term systemic effects	300 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	900 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	300 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	300 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	12,25 mg/m ³
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Workers	Inhalation	Acute local effects	12,25 mg/m ³
	Workers	Skin contact	Long-term systemic effects	8,33 mg/kg bw/day
	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 effects	0,75 mg/kg bw/day
	Consumers	Ingestion	Acute local effects	0,75 mg/kg bw/day
Bisphenol-F-epichlorhydrin-epoxy resin	Workers	Inhalation	Long-term systemic effects	29,39 mg/m ³

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	Workers	Skin contact	Long-term systemic effects	104,15 mg/kg bw/day
	Workers	Skin contact	Acute local effects	0,0083 mg/cm ²
	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
Alkyl (C12-C14) Glycidyl Ethers	Workers	Inhalation	Long-term systemic effects	13,8 mg/m ³
	Workers	Inhalation	Acute systemic effects	29 mg/m ³
	Workers	Inhalation	Long-term local effects	0,98 mg/m ³
	Workers	Inhalation	Acute local effects	9,8 mg/m ³
	Workers	Skin contact	Long-term systemic effects	3,9 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	17 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	1,7 mg/cm ²
	Workers	Skin contact	Acute local effects	68 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	4,1 mg/m ³
	Consumers	Inhalation	Acute systemic effects	7,6 mg/m ³
	Consumers	Inhalation	Long-term local effects	1,46 mg/m ³
	Consumers	Inhalation	Acute local effects	2,9 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	2,35 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	10 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	1 mg/cm ²
	Consumers	Skin contact	Acute local effects	40 mg/cm ²
	Consumers	Ingestion	Long-term systemic effects	1 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	1219 mg/kg bw/day
Barite (Ba(SO ₄))	Workers	Inhalation	Long-term systemic effects	10 mg/m ³
	Workers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	10 mg/m ³
	Consumers	Ingestion		13000 mg/kg bw/day
Hematite	Workers	Inhalation	Acute systemic effects	0,18 mg/m ³

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	Consumers	Inhalation	Acute systemic effects	0,09 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	0,003 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0,001 mg/kg bw/day
Aluminium	Workers	Inhalation	Long-term local effects	3,72 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	3,95 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
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
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
Alkyl (C12-C14) Glycidyl Ethers	Fresh water	0,0072 mg/l
	Marine water	0,00072 mg/l
	Intermittent use/release	0,072 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	66,77 mg/kg
	Marine sediment	6,677 mg/kg
	Soil	80,12 mg/kg
Barite (Ba(SO ₄))	Fresh water	227,8 mg/l
	Sewage treatment plant	50,1 mg/l
	Fresh water sediment	792,7 mg/kg
	Soil	207,7 mg/kg
Hematite	Fresh water	0,32 μ g/l
	Sewage treatment plant	1,9 mg/l
	Oral (Secondary Poisoning)	0,43 mg/kg food
Aluminium	Sewage treatment plant	20 mg/l

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

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Personal protective equipment

- Eye protection : Wear the following personal protective equipment:
Safety glasses
- Hand protection
- Material : Fluorinated rubber
 - Break through time : ≥ 480 min
 - Glove thickness : $\geq 0,7$ mm
 - Directive : DIN EN 374
 - Protective index : Class 6
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- 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 : Combined particulates and organic vapour type (A-P)
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : solid
- Colour : coloured
- Odour : characteristic
- Odour Threshold : No data available
- pH : No data available
- Melting point/freezing point : No data available
- Initial boiling point and boiling range : 162 °C
- Flash point : 100 °C
Method: ISO 1523

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Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	0,1 hPa (20 °C)
Relative vapour density	:	Not applicable
Density	:	1,772 g/cm ³ (20 °C)
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	460 °C Method: DIN 51794
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	2.100 cP (20 °C)
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size	:	No data available
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SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Can react with strong oxidizing agents.
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10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

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

Alkyl (C12-C14) Glycidyl Ethers:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0,15 mg/l
Exposure time: 7 h
Test atmosphere: vapour

Solvent naphtha (petroleum), light arom.:

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Acute oral toxicity : LD50 (Rat, female): 3.492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3.160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Components:

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

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

Bisphenol-F-epichlorhydrin-epoxy resin:

Species: Rabbit
Result: Skin irritation

Alkyl (C12-C14) Glycidyl Ethers:

Species: Rabbit
Result: Skin irritation

Solvent naphtha (petroleum), light arom.:

Assessment: Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

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

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Alkyl (C12-C14) Glycidyl Ethers:

Species: Rabbit
Result: No eye irritation

Solvent naphtha (petroleum), light arom.:

Species: Rabbit
Result: No eye irritation

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

Alkyl (C12-C14) Glycidyl Ethers:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

Solvent naphtha (petroleum), light arom.:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig

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Method: OECD Test Guideline 406
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 aberration 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.

Alkyl (C12-C14) Glycidyl Ethers:

- Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
- Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

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2K TIN SOLDER REPLACEMENT - 180 ML (Filler 120 ML)

Version	Revision Date:	SDS Number:	Date of last issue: 01.12.2016
1.4	15.02.2017	772208-00005	Date of first issue: 21.06.2016

Solvent naphtha (petroleum), light arom.:

- Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative
- Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow
cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative
- Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC)
1272/2008, Annex VI, Part 3, Note P)

Carcinogenicity

Not classified based on available information.

Components:

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

Species: Rat
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

Solvent naphtha (petroleum), light arom.:

- Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC)
1272/2008, Annex VI, Part 3, Note P)

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

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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
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

Alkyl (C12-C14) Glycidyl Ethers:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Skin contact
Result: negative

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

Solvent naphtha (petroleum), light arom.:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

STOT - single exposure

Not classified based on available information.

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Components:

Solvent naphtha (petroleum), light arom.:

Assessment: May cause drowsiness or dizziness.

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

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

Alkyl (C12-C14) Glycidyl Ethers:

Species: Rat

NOAEL: 1 mg/kg

Application Route: Skin contact

Exposure time: 90 Days

Method: OECD Test Guideline 411

Solvent naphtha (petroleum), light arom.:

Species: Rat, female

NOAEL: 900 mg/m³

Application Route: inhalation (vapour)

Exposure time: 12 Months

Remarks: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

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Components:

Solvent naphtha (petroleum), light arom.:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

SECTION 12: Ecological information

12.1 Toxicity

Components:

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

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 | : | 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 |

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Alkyl (C12-C14) Glycidyl Ethers:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 5.000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7,2 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility

Toxicity to algae : IC50 (Pseudokirchneriella subcapitata (green algae)): 843 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 500 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), light arom.:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9,2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3,2 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 7,9 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0,22 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

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Toxicity to microorganisms : EC50 : > 99 mg/l
Exposure time: 10 min

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

Alkyl (C12-C14) Glycidyl Ethers:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 87 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Solvent naphtha (petroleum), light arom.:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 78 %
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

Alkyl (C12-C14) Glycidyl Ethers:

Partition coefficient: n- : log Pow: 3,77

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octanol/water

Solvent naphtha (petroleum), light arom.:

Partition coefficient: n- : log Pow: 3,7 - 4,5
octanol/water

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.
- Waste Code : The following Waste Codes are only suggestions:
- used product
080111, waste paint and varnish containing organic solvents or other dangerous substances
 - unused product
080111, waste paint and varnish containing organic solvents or other dangerous substances
 - uncleaned packagings
150110, packaging containing residues of or contaminated by dangerous substances
- Acc. Packaging Ordinance properly emptied packaging:
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging.

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SECTION 14: Transport information

14.1 UN number

ADN	:	UN 3077
ADR	:	UN 3077
RID	:	UN 3077
IMDG	:	UN 3077
IATA	:	UN 3077

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), Bisphenol-F-epichlorhydrin-epoxy resin)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), Bisphenol-F-epichlorhydrin-epoxy resin)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), Bisphenol-F-epichlorhydrin-epoxy resin)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), Bisphenol-F-epichlorhydrin-epoxy resin)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700), Bisphenol-F-epichlorhydrin-epoxy resin)

14.3 Transport hazard class(es)

ADN	:	9
ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

14.4 Packing group

ADN

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Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

ADR

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Marine pollutant : yes

IATA (Cargo)

Marine pollutant : yes

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14.6 Special precautions for user

Not applicable

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

Remarks : 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) : Not applicable

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

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

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

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

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	Quantity 1 200 t	Quantity 2 500 t
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Water contaminating class (Germany) : WGK 2 water endangering
Classification according VwVwS, Annex 4.

Volatile organic compounds : Directive 2004/42/EC
VOC content in g/l: 65 g/l
Product sub-category: Body filler/stopper
Coatings: All types
VOC limit level 1 (2007): 250 g/l
Remarks: VOC content for the product in a ready to use condition.

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 0 %, 0 g/l
Remarks: VOC content excluding water

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

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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

H226	: Flammable liquid and vapour.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H411	: Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	: Chronic aquatic toxicity
Asp. Tox.	: Aspiration hazard
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure
DE TRGS 900	: Germany. TRGS 900 - Occupational exposure limit values.
DE TRGS 900 / AGW	: Time Weighted Average

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, Bioaccumu-

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lative 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; 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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN