

SAFETY DATA SHEET

complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

PD 955 M SMT-ADHESIVE, 37 G, S3

Version
10.1

Revision Date:
12/05/2024

Date of last issue: 02/16/2023
Date of first issue: 03/23/2017

SECTION 1. IDENTIFICATION

Product name : PD 955 M SMT-ADHESIVE, 37 G, S3
Product code : 89950252

Manufacturer or supplier's details

Company name of supplier : Heraeus Electronics GmbH & Co. KG
Address : Heraeusstrasse 12-14
Hanau 63450
Telephone : +496181350
National Emergency Telephone Number : +1 800 535 5053
GBK/Infotrac ID 105241
This telephone number is available 24 hours per day, 7 days per week.
E-mail address of person responsible for the SDS : sds@heraeus.com
(Heraeus Business Solutions GmbH: EHS Chemical Safety)

Recommended use of the chemical and restrictions on use

Recommended use : Electrical industry and electronics
Industrial use
≤ 5 L
Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitization : Category 1
Germ cell mutagenicity : Category 2
Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms :



Signal Word : Danger

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

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H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H360Fd May damage fertility. Suspected of damaging the unborn child.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P261 Avoid breathing mist or vapors.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : organic

Components

Chemical name	CAS-No.	Concentration (% w/w)
Bisphenol-F-epichlorhydrin-epoxy resin	9003-36-5	≥ 30 - < 50
Bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	≥ 10 - < 20
2,3-Epoxypropyl neodecanoate	26761-45-5	≥ 10 - < 20
Zeolites	1318-02-1	≥ 1 - < 5
Bisphenol A	80-05-7	≥ 0.1 - < 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself.
Move out of dangerous area.
Show this material 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:

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In case of eye contact	:	Polyethylene glycol 400. Obtain medical attention.
		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.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. May cause an allergic skin reaction.
		Causes serious eye irritation. Suspected of causing genetic defects. May damage fertility. Suspected of damaging the unborn child.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Silicon oxides Metal oxides
Further information	:	Use a water spray to cool fully closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	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.
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.
Methods and materials for	:	Contain spillage, soak up with non-combustible absorbent

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containment and cleaning up 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 container for disposal.

SECTION 7. HANDLING AND STORAGE

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.

Conditions for safe storage : Keep tightly closed in a dry, cool and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Personal protective equipment

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

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.

Eye protection : Safety glasses with side-shields

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

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.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: paste
Color	: red
Odor	: mild
Odor Threshold	: No data available
pH	: substance/mixture is non-soluble (in water)
Melting point/ range	: No data available
Boiling point/boiling range	: > 392 °F / > 200 °C (1,013 hPa)
Flash point	: > 212 °F / > 100 °C (1,013 hPa)
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Self-ignition	: Not applicable
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: ≤ 1,100 hPa (122 °F / 50 °C)
Relative vapor density	: No data available
Relative density	: No data available
Density	: 1.188 g/cm ³ (73 °F / 23 °C, 1,013 hPa)
Solubility(ies)	
Water solubility	: insoluble (68 °F / 20 °C, 1,013 hPa)
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available

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Viscosity		
Viscosity, dynamic	:	1,000 mPa.s (73 °F / 23 °C)
Viscosity, kinematic	:	> 40 mm ² /s (73 °F / 23 °C)
		> 20.5 mm ² /s (104 °F / 40 °C)
Explosive properties	:	Not applicable
Oxidizing properties	:	Not applicable
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No data available
		No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

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

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Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

2,3-Epoxypropyl neodecanoate:

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
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Zeolites:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 3.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

Bisphenol A:

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

Skin corrosion/irritation

Causes skin irritation.

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Rabbit
Result : Skin irritation

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Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Result : Skin irritation
Remarks : Based on national or regional regulation.

2,3-Epoxypropyl neodecanoate:

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

Zeolites:

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

Bisphenol A:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

Species : Rabbit
Result : No eye irritation

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Result : Irritation to eyes, reversing within 21 days
Remarks : Based on national or regional regulation.

2,3-Epoxypropyl neodecanoate:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Zeolites:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

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Bisphenol A:

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

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

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

Assessment : Probability or evidence of skin sensitization in humans

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

2,3-Epoxypropyl neodecanoate:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of high skin sensitization rate in humans

Zeolites:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

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Bisphenol A:

Assessment : Probability or evidence of skin sensitization in humans
Remarks : Based on national or regional regulation.

Germ cell mutagenicity

Suspected of causing genetic defects.

Components:

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.

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

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

Test Type: Chromosome aberration test in vitro
Result: positive

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

2,3-Epoxypropyl neodecanoate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive

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Test Type: In vitro mammalian cell gene mutation test
Result: negative

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

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

Genotoxicity in vivo : Test Type: Transgenic rodent somatic cell gene mutation assay
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 488
Result: positive

Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 486
Result: negative

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Zeolites:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

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

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: Ingestion
Method: OECD Test Guideline 474
Result: negative

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Bisphenol A:

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

Carcinogenicity

Not classified due to lack of data.

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Species : Rat
Application Route : Ingestion
Exposure time : 24 Months
Method : OECD Test Guideline 453
Result : negative

Species : Mouse
Application Route : Skin contact
Exposure time : 24 Months
Method : OECD Test Guideline 453
Result : negative

Zeolites:

Species : Rat
Application Route : Ingestion
Exposure time : 104 weeks
Result : negative

Species : Rat
Application Route : inhalation (dust/mist/fume)
Exposure time : 22 Months
Result : negative

Bisphenol A:

Species : Rat
Application Route : Ingestion

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Exposure time : 103 weeks
Result : negative

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

May damage fertility. Suspected of damaging the unborn child.

Components:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Skin contact
Result: negative

2,3-Epoxypropyl neodecanoate:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 443

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Result: negative

Effects on fetal development : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 443
Result: positive

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Zeolites:

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

Bisphenol A:

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

Effects on fetal development : Test Type: Embryo-fetal 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.

STOT-single exposure

Not classified due to lack of data.

Components:

Bisphenol A:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified due to lack of data.

Components:

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Assessment : No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

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Zeolites:

Assessment : No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Species : Rat
NOAEL : 50 mg/kg
LOAEL : 250 mg/kg
Application Route : Ingestion
Exposure time : 90 Days
Method : OECD Test Guideline 408

Species : Mouse
NOAEL : ≥ 100 mg/kg
Application Route : Skin contact
Exposure time : 13 Weeks
Method : OECD Test Guideline 411

2,3-Epoxypropyl neodecanoate:

Species : Rat, male
NOAEL : 100 mg/kg
LOAEL : 300 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Zeolites:

Species : Rat
NOAEL : 250 - 300 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Species : Monkey
LOAEL : 0.001 mg/l
Application Route : inhalation (dust/mist/fume)
Exposure time : 24 Months

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Bisphenol A:

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

Aspiration toxicity

Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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 : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100
plants mg/l
Exposure time: 72 h

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

Toxicity to microorganisms : IC50: > 100 mg/l
Exposure time: 3 h
Remarks: Based on data from similar materials

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 1 - 10 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other : EL50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
aquatic invertebrates Exposure time: 48 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Toxicity to algae/aquatic : EL50 (Scenedesmus capricornutum (fresh water algae)): > 10
plants - 100 mg/l
Exposure time: 72 h

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Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

NOELR (Scenedesmus capricornutum (fresh water algae)): > 1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.1 - 1 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

Toxicity to microorganisms : IC50: > 100 mg/l
Exposure time: 3 h
Remarks: Based on data from similar materials

2,3-Epoxypropyl neodecanoate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (activated sludge): 500 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Zeolites:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: ISO 6341

Toxicity to algae/aquatic plants : EL50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

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		NOELR (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOELR (Pimephales promelas (fathead minnow)): > 1 mg/l Exposure time: 30 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 100 mg/l Exposure time: 16 h Method: DIN 38 412 Part 8

Bisphenol A:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 0.885 mg/l Exposure time: 48 h Method: ISO 14669 and PARCOM method
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 fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 0.000174 mg/l Exposure time: 150 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.0194 mg/l Exposure time: 28 d
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): > 320 mg/l Exposure time: 18 h

Persistence and degradability

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

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

2,3-Epoxypropyl neodecanoate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 7 - 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Bisphenol A:

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

Bioaccumulative potential

Components:

Bisphenol-F-epichlorhydrin-epoxy resin:

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

Bis-[4-(2,3-epoxipropoxy)phenyl]propane:

Partition coefficient: n- : log Pow: 3.5
octanol/water

2,3-Epoxypropyl neodecanoate:

Partition coefficient: n- : log Pow: 4.4
octanol/water

Zeolites:

Bioaccumulation : Species: Oysters
Bioconcentration factor (BCF): 0.34 - 1.44

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

Bisphenol A:

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

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

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Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

Components:

Decamethylcyclopentasiloxane:

20-year global warming potential: 1.04
100-year global warming potential: 0.289
500-year global warming potential: 0.082
Atmospheric lifetime: 0.016 yr
Radiative efficiency: 0.098 Wm²ppb
Further information: Miscellaneous compounds

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging : Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

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Domestic regulation

DOT

Not regulated as a dangerous good

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.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitization
Germ cell mutagenicity
Reproductive toxicity
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Phenol	108-95-2	≥ 0 - < 0.1 %
Epichlorohydrin	106-89-8	≥ 0 - < 0.1 %

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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Phenol	108-95-2	≥ 0 - < 0.1 %
Epichlorohydrin	106-89-8	≥ 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Phenol	108-95-2
Epichlorohydrin	106-89-8

Pennsylvania Right To Know

Bisphenol-F-epichlorhydrin-epoxy resin	9003-36-5
Not a hazardous substance	Not Assigned
Bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3
2,3-Epoxypropyl neodecanoate	26761-45-5
Dimethyl Siloxane reaction with silica	67762-90-7
Bisphenol A	80-05-7
Phenol	108-95-2

Maine Chemicals of High Concern

Epichlorohydrin	106-89-8
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Vermont Chemicals of High Concern

Bisphenol A	80-05-7
Phenol	108-95-2

Washington Chemicals of High Concern

Bisphenol A	80-05-7
Phenol	108-95-2

California Prop. 65

WARNING: This product can expose you to chemicals including 2,3-Epoxypropyl phenyl ether, Epichlorohydrin, which is/are known to the State of California to cause cancer, and Bisphenol A, Epichlorohydrin, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Other regulations

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Storage class (TRGS 510) : 10: Combustible liquids

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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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 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.

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