



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and
Regulation (EC) No. 1272/2008

Revision Date 23-Oct-2024

Version 1

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

1.1. Product identifier

Product Code 84200
Product Name Marine H2 Hold Epoxy Resin

Other means of identification

Unique Formula Identifier (UFI) YT2J-7068-N00P-VE3T
Mixture. Contains BISPENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN; BIS (DIMETHYLAMINOMETHYL) PHENOL

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

Recommended Use Epoxy resin
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer ITW Permatex, Inc. 6875 Parkland Blvd. Solon, Ohio 44139 USA Telephone: 1-87-Permatex (866) 732-9502	Only Representative (OR) ITW Permatex, Inc. Bay 150 Shannon Industrial Estate Co. Clare Ireland V14 DF82 353(61)771500 353(61)471285 customerservice.shannon@itwpp.com
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For further information, please contact

Contact Point ITW Permatex, Inc.
6875 Parkland Blvd.
Solon, Ohio 44139 USA
Telephone: 1-87-Permatex
(866) 732-9502

E-mail address: mail@permatex.com

Non-Emergency Telephone Number 866-732-9502

1.4. Emergency telephone number

24-hour emergency phone number EU Member States information as follows:

24-hour emergency phone number - §45 - (EC)1272/2008	
Europe	112
Austria	01 406 43 43

Belgium	070 245 245
Bulgaria	+359 2 9154 233
Croatia	+3851 2348 342
Cyprus	1401
Czech Republic	+420 224 919 293/ +420 224 915 402
Denmark	+ 45 8212 1212
Estonia	16662/ (+372) 7943 794
Finland	0800 147 111/ 09 471 977
France	+33 (0)1 45 42 59 59
Germany	+49 228 192 40
Greece	(003) 2107793777
Hungary	+36 80 201 199
Iceland	543 2222
Ireland	01 809 2166
Italy	0382-24444
Latvia	+371 67042473
Liechtenstein	01 406 43 43
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	112
Netherlands	+31 (0)88 755 8000
Norway	22 59 13 00
Poland	112
Portugal	+351 800 250 250
Romania	+40213183606
Slovakia	+421 2 5477 4166
Slovenia	112
Spain	+34 91 562 04 20
Sweden	112
Switzerland	145
United Kingdom	111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion	Category 1 Sub-category B - (H314)
Serious eye damage	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN; BIS (DIMETHYLAMINOMETHYL) PHENOL



Signal word

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing and eye/face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P391 - Collect spillage.

99.05 % of the mixture consists of ingredient(s) of unknown acute toxicity.

14.05 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

99.05 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Unknown aquatic toxicity

Contains 0.05 % of components with unknown hazards to the aquatic environment.

Additional information

This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Other hazards

No information available.

PBT & vPvB

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	80-100%	No data available	(603-074-00-8)	Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)	Eye Irrit. 2 :: C>=5% Skin Irrit. 2 :: C>=5%	-	-	-
BIS (DIMETHYLAMINOMETHYL) PHENOL 71074-89-0	10-30%	No data available	275-162-0	No data available	-	-	-	-
TITANIUM DIOXIDE	0.1-1%	No data	236-675-5	Carc. 2 (H351i)	-	-	-	V,W,10

13463-67-7		available	(022-006-00-2)					
SILICON DIOXIDE 7631-86-9	<0.1%	No data available	231-545-4	No data available	-	-	-	-

Note V - If the substance is to be placed on the market as fibers (with diameter < 3 µm, length > 5 µm and aspect ratio ≥ 3:1) or particles of the substance fulfilling the WHO fiber criteria or as particles with modified surface chemistry, their hazardous properties must be evaluated in accordance with Title II of this Regulation, to assess whether a higher category (Carc. 1B or 1A) and/or additional routes of exposure (oral or dermal) should be applied.

Note W - It has been observed that the carcinogenic hazard of this substance arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung. This note aims to describe the particular toxicity of the substance; it does not constitute a criterion for classification according to this Regulation.

Note 10 - The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	11400	No data available	No data available	No data available	No data available
TITANIUM DIOXIDE 13463-67-7	2000	No data available	5.09	No data available	No data available
SILICON DIOXIDE 7631-86-9	7900	5000	5.01	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration ≥0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Section 4: First aid measures

4.1. Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Effects of Exposure No information available.

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

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.
Storage class (TRGS 510)	Storage class 8A.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	-	-	-	TWA: 1.0 mg/m ³	-
TITANIUM DIOXIDE 13463-67-7	-	TWA: 5 mg/m ³ STEL 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³
SILICON DIOXIDE 7631-86-9	-	TWA: 4 mg/m ³	-	-	-

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
TITANIUM DIOXIDE 13463-67-7	-	-	TWA: 6 mg/m ³ STEL: 12 mg/m ³	TWA: 5 mg/m ³	-
SILICON DIOXIDE 7631-86-9	-	TWA: 0.1 mg/m ³ TWA: 4.0 mg/m ³	-	TWA: 2 mg/m ³	TWA: 5 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m ³	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³	TWA: 0.3 mg/m ³ Peak: 2.4 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	-
SILICON DIOXIDE 7631-86-9	-	TWA: 4 mg/m ³	TWA: 0.02 mg/m ³ Peak: 0.16 mg/m ³	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	-	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 5 mg/m ³
SILICON DIOXIDE 7631-86-9	TWA: 6 mg/m ³ TWA: 2.4 mg/m ³ STEL: 18 mg/m ³ STEL: 7.2 mg/m ³	-	-	TWA: 1 mg/m ³	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
TITANIUM DIOXIDE 13463-67-7	-	-	-	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 10 mg/m ³ STEL: 30 mg/m ³
SILICON DIOXIDE 7631-86-9	-	-	-	TWA: 1.5 mg/m ³ STEL: 3 mg/m ³	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ STEL: 15 mg/m ³	TWA: 5 mg/m ³	-	TWA: 10 mg/m ³
SILICON DIOXIDE 7631-86-9	-	-	Ceiling: 0,3 mg/m ³	TWA: 4 mg/m ³	-
Chemical name	Sweden		Switzerland	United Kingdom	
TITANIUM DIOXIDE 13463-67-7	NGV: 5 mg/m ³		TWA: 3 mg/m ³ TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	
SILICON DIOXIDE 7631-86-9	-		TWA: 4 mg/m ³	TWA: 6 mg/m ³ TWA: 2.4 mg/m ³ STEL: 18 mg/m ³ STEL: 7.2 mg/m ³	

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Thermal hazards	No information available.
Environmental exposure controls	No information available.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	No information available	
Color	No information available	
Odor	No information available.	
Odor threshold	No information available	
Property	Values	Remarks • Method
Melting point / freezing point	No data available	Estimated
Boiling point / boiling range	No data available	Polymerization
Flammability (solid, gas)	No data available	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash point	> 149 °C	
Autoignition temperature	No data available	Estimated
Decomposition temperature		Remarks: Self-Accelerating decomposition temperature (SADT): 50 °C SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
pH	No data available	10% in deionized water
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No Data Available	Kinematic viscosity at 100 degrees C
Dynamic viscosity	No data available	Remarks: Self-Accelerating decomposition temperature (SADT): 50 °C SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Water solubility	No data available	Polymerization
Solubility(ies)	No Data Available	None known
Partition coefficient	No Data Available	None known
Vapor pressure	31.0 mmHg	
Relative density	1.164	
Bulk density	No data available	
Density	No data available	
Vapor density	No data available	Air = 1
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available < 1 Ether = 1

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Carbon oxides. Chlorine.

Section 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or

prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Acute toxicity**

Based on available data, the classification criteria are not met.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral) 11,527.40 mg/kg
 ATEmix (dermal) 99,999.00 mg/kg
 ATEmix (inhalation-gas) 99,999.00 ppm
 ATEmix (inhalation-vapor) 99,999.00 mg/l
 ATEmix (inhalation-dust/mist) 99,999.00 mg/l

14.05 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
 99.05 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
 99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
 99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
 99.05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN	= 11400 mg/kg (Rat)	-	-
TITANIUM DIOXIDE	> 2000 mg/kg (Rat)	-	> 5.09 mg/L (Rat) 4 h
SILICON DIOXIDE	= 7900 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 5.01 mg/L (Rat) 4 h

Skin corrosion/irritation

Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	European Union
TITANIUM DIOXIDE	Carc. 2

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties Based on available data, the classification criteria are not met.

11.2.2. Other information

Other adverse effects No information available.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 0.05 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
SILICON DIOXIDE	EC50: =440mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =5000mg/L (96h, Brachydanio rerio)	-	EC50: =7600mg/L (48h, Ceriodaphnia dubia)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Based on available data, the classification criteria are not met.

Chemical name	PBT and vPvB assessment
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN	The substance is not PBT / vPvB
TITANIUM DIOXIDE	The substance is not PBT / vPvB
SILICON DIOXIDE	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties Based on available data, the classification criteria are not met.

12.7. Other adverse effects

Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

Section 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Section 14: Transport information

IATA

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	

Special Provisions None

ADR

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazards Not applicable
 14.6 Special precautions for user
Special Provisions None

ADN

14.1 UN number or ID number Not regulated
 14.2 UN proper shipping name Not regulated
 14.3 Transport hazard class(es) Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special precautions for user
Special Provisions None

Section 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number
SILICON DIOXIDE - 7631-86-9	RG 25

Germany

Water hazard class (WGK) obviously hazardous to water (WGK 2)

Ordinance on the Incentive Tax on Volatile Organic Compounds (OVOC) SR 814.018 Not applicable

Storage of Hazardous Material SC 8

WPO (GSchV) SR 814.201; WPA (GSchG) SR 814.20 Not applicable

European Union

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

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN - 25068-38-6	75	-
TITANIUM DIOXIDE - 13463-67-7	75	-

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
SILICON DIOXIDE - 7631-86-9	Plant protection agent

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECI	Does not comply
PICCS	Complies
AICS	Does not comply
NZIoC	Complies
TCSI	Contact supplier for inventory compliance status

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing Chemicals Inventory
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

- H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H351i - Suspected of causing cancer if inhaled
H411 - Toxic to aquatic life with long lasting effects

Legend

- SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation
 + Sensitizers

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision Date 23-Oct-2024

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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.

End of Safety Data Sheet



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and
Regulation (EC) No. 1272/2008

Revision Date 23-Oct-2024

Version 1

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

1.1. Product identifier

Product Code 84200V
Product Name Marine H2 Hold Epoxy Hardener

Other means of identification

Unique Formula Identifier (UFI) 5W2J-Q0VN-Y005-HRPV

Mixture. Contains TRIETHYLENETETRAMINE; 4-NONYL-PHENOL; DIMER/TOFA, REACTION PRODUCTS WITH TETA; 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

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

Recommended Use Curing chemical
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer	Only Representative (OR)
ITW Permatex, Inc. 6875 Parkland Blvd. Solon, Ohio 44139 USA Telephone: 1-87-Permatex (866) 732-9502	ITW Permatex, Inc. Bay 150 Shannon Industrial Estate Co. Clare Ireland V14 DF82 353(61)771500 353(61)471285 customerservice.shannon@itwpp.com

For further information, please contact

Contact Point ITW Permatex, Inc.
6875 Parkland Blvd.
Solon, Ohio 44139 USA
Telephone: 1-87-Permatex
(866) 732-9502

E-mail address: mail@permatex.com

Non-Emergency Telephone Number 866-732-9502

1.4. Emergency telephone number

24-hour emergency phone number EU Member States information as follows:

24-hour emergency phone number - §45 - (EC)1272/2008
Europe 112

Austria	01 406 43 43
Belgium	070 245 245
Bulgaria	+359 2 9154 233
Croatia	+3851 2348 342
Cyprus	1401
Czech Republic	+420 224 919 293/ +420 224 915 402
Denmark	+ 45 8212 1212
Estonia	16662/ (+372) 7943 794
Finland	0800 147 111/ 09 471 977
France	+33 (0)1 45 42 59 59
Germany	+49 228 192 40
Greece	(003) 2107793777
Hungary	+36 80 201 199
Iceland	543 2222
Ireland	01 809 2166
Italy	0382-24444
Latvia	+371 67042473
Liechtenstein	01 406 43 43
Lithuania	+370 (85) 2362052
Luxembourg	(+352) 8002 5500
Malta	112
Netherlands	+31 (0)88 755 8000
Norway	22 59 13 00
Poland	112
Portugal	+351 800 250 250
Romania	+40213183606
Slovakia	+421 2 5477 4166
Slovenia	112
Spain	+34 91 562 04 20
Sweden	112
Switzerland	145
United Kingdom	111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Skin corrosion	Category 1 Sub-category B - (H314)
Serious eye damage	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 2 - (H361fd)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

2.2. Label elements

Contains TRIETHYLENETETRAMINE; 4-NONYL-PHENOL; DIMER/TOFA, REACTION PRODUCTS WITH TETA; 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed.

H312 - Harmful in contact with skin.

H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P391 - Collect spillage.

Unknown acute toxicity

100 % of the mixture consists of ingredient(s) of unknown acute toxicity.

20 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

Additional information

This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards**Other hazards**

No information available.

PBT & vPvB

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Endocrine Disruptor Information

Contains a known or suspected endocrine disruptor.

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
4-NONYL-PHENOL	Endocrine disrupting properties	-

Chemical name	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)

4-NONYL-PHENOL

Endocrine disrupting properties

SECTION 3: Composition/information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
TRIETHYLENETETRAMINE 112-24-3	30-60%	No data available	203-950-6 (612-059-00-5)	Acute Tox. 4 (H312) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Chronic 3 (H412)	-	-	-	-
4-NONYL-PHENOL 84852-15-3	15-40%	No data available	284-325-5 (601-053-00-8)	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Repr. 2 (H361fd) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	-	-	-
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	10-30%	No data available	-	No data available	-	-	-	-
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL 90-72-2	3-7%	No data available	202-013-9 (603-069-00-0)	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-	-	-	-

Full text of H- and EUH-phrases: see section 16Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATE_{mix}) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
TRIETHYLENETETRAMINE 112-24-3	1716.2	1720 1465.4	No data available	No data available	No data available
4-NONYL-PHENOL 84852-15-3	1300	2000	No data available	No data available	No data available
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	No data available	2000	No data available	No data available	No data available
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL 90-72-2	1200	1280	No data available	No data available	No data available

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59).

Chemical name	CAS No.	SVHC candidates
4-NONYL-PHENOL	84852-15-3	X

Section 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Itching. Rashes. Hives.
Effects of Exposure	May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.

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

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.
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Section 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

Storage class (TRGS 510) Storage class 8A.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
TRIETHYLENETETRAMIN E 112-24-3	-	-	-	TWA: 1 ppm TWA: 6 mg/m ³ STEL: 12 mg/m ³ S+	-
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
TRIETHYLENETETRAMIN E 112-24-3	-	-	skin sensitizer	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
TRIETHYLENETETRAMIN E 112-24-3	-	-	-	-	TWA: 1 ppm TWA: 6 mg/m ³ STEL: 2 ppm STEL: 12 mg/m ³ J+
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
TRIETHYLENETETRAMIN E 112-24-3	-	-	-	TWA: 1 ppm TWA: 6 mg/m ³ STEL: 3 ppm STEL: 12 mg/m ³ A+	TWA: 1 mg/m ³ STEL: 3 mg/m ³ Sk*
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
TRIETHYLENETETRAMIN E 112-24-3	-	TWA: 1.7 ppm TWA: 10 mg/m ³ STEL: 3.3 ppm STEL: 20 mg/m ³	-	-	-
Chemical name	Sweden		Switzerland	United Kingdom	
TRIETHYLENETETRAMINE 112-24-3	NGV: 1 ppm NGV: 6 mg/m ³ Vägledande KGV: 2 ppm Vägledande KGV: 12 mg/m ³ S+		-	-	

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
4-NONYL-PHENOL 84852-15-3	-	7.5 mg/kg bw/day [4] [6] 15 mg/kg bw/day [4] [7]	0.5 mg/m ³ [4] [6] 1 mg/m ³ [4] [7]
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	-	1.1 mg/kg bw/day [4] [6]	3.9 mg/m ³ [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
4-NONYL-PHENOL 84852-15-3	0.08 mg/kg bw/day [4] [6] 0.4 mg/kg bw/day [4] [7]	7.6 mg/kg bw/day [4] [6] 7.6 mg/kg bw/day [4] [7]	0.4 mg/m ³ [4] [6] 0.8 mg/m ³ [4] [7]
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	0.56 mg/kg bw/day [4] [6]	-	0.97 mg/m ³ [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
4-NONYL-PHENOL 84852-15-3	0.000644 mg/L	0.00017 mg/L	0.000548 mg/L	-	-
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	0.00434 mg/L	0.0434 mg/L	0.000434 mg/L	-	-
2,4,6-TRIS(DIMETHYLAMI NOMETHYL)PHENOL 90-72-2	0.084 mg/L	0.84 mg/L	0.0084 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
4-NONYL-PHENOL 84852-15-3	4.62 mg/kg sediment dw	1.23 mg/kg sediment dw	9.5 mg/L	2.3 mg/kg soil dw	2.36 mg/kg food
DIMER/TOFA, REACTION PRODUCTS WITH TETA 68082-29-1	434.02 mg/kg sediment dw	43.4 mg/kg sediment dw	3.84 mg/L	86.78 mg/kg soil dw	-
2,4,6-TRIS(DIMETHYLAMI NOMETHYL)PHENOL 90-72-2	-	-	0.2 mg/L	-	-

8.2. Exposure controls

Engineering controls	No information available.
Personal protective equipment	
Eye/face protection	Tight sealing safety goggles. Face protection shield.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Thermal hazards	No information available.
Environmental exposure controls	No information available.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	No information available	
Color	No information available	
Odor	No information available.	
Odor threshold	No information available	
Property	Values	Remarks • Method
Melting point / freezing point	No data available	Estimated
Boiling point / boiling range	No data available	
Flammability (solid, gas)	No data available	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash point	> 200 °C	
Autoignition temperature	No data available	Estimated
Decomposition temperature		Remarks: Self-Accelerating decomposition temperature (SADT): 50 °C SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
pH	No data available	10% in deionized water
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No Data Available	Kinematic viscosity at 100 degrees C
Dynamic viscosity	No data available	Remarks: Self-Accelerating decomposition temperature (SADT): 50 °C SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.
Water solubility	No data available	Polymerization
Solubility(ies)	No Data Available	None known
Partition coefficient	No Data Available	None known
Vapor pressure	0.011 mmHg	
Relative density	0.98	
Bulk density	No data available	

Density	No data available	
Vapor density	5.1	Air = 1
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available Ether = 1

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Carbon oxides. Nitrogen oxides (NOx). Ammonia.

Section 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage.

(based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Acute toxicity**

Harmful if swallowed. Harmful by skin contact.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

- ATEmix (oral) 1,470.70 mg/kg
- ATEmix (dermal) 1,703.50 mg/kg
- ATEmix (inhalation-gas) 99,999.00 ppm
- ATEmix (inhalation-vapor) 99,999.00 mg/l
- ATEmix (inhalation-dust/mist) 99,999.00 mg/l

Unknown acute toxicity

- 20 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
TRIETHYLENETETRAMINE	= 1716.2 mg/kg (Rat)	= 1720 mg/kg (Rabbit) = 1465.4 mg/kg (Rabbit)	-
4-NONYL-PHENOL	= 1300 mg/kg (Rat)	= 2000 mg/kg (Rabbit)	-
DIMER/TOFA, REACTION PRODUCTS WITH TETA	-	> 2000 mg/kg (Rat)	-
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL	= 1200 mg/kg (Rat)	= 1280 mg/kg (Rat)	-

Skin corrosion/irritation

Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
4-NONYL-PHENOL	Repr. 2

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties Based on available data, the classification criteria are not met.

11.2.2. Other information

Other adverse effects No information available.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
TRIETHYLENETETRAMINE	EC50: =2.5mg/L (72h, <i>Desmodesmus subspicatus</i>) EC50: =20mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) EC50: =3.7mg/L (96h, <i>Pseudokirchneriella subcapitata</i>)	LC50: =570mg/L (96h, <i>Poecilia reticulata</i>) LC50: =495mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: =31.1mg/L (48h, <i>Daphnia magna</i>)
4-NONYL-PHENOL	EC50: 0.36 - 0.48mg/L (96h, <i>Pseudokirchneriella</i>)	LC50: =0.135mg/L (96h, <i>Pimephales promelas</i>) LC50: =0.1351mg/L	-	EC50: =0.14mg/L (48h, <i>Daphnia magna</i>)

	subcapitata) EC50: 0.16 - 0.72mg/L (72h, Pseudokirchneriella subcapitata) EC50: =1.3mg/L (72h, Desmodesmus subspicatus)	(96h, Lepomis macrochirus)		
DIMER/TOFA, REACTION PRODUCTS WITH TETA	-	LC50: =7.07mg/L (96h, Danio rerio)	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential**Bioaccumulation**

Chemical name	Partition coefficient
TRIETHYLENETETRAMINE	-1.4
4-NONYL-PHENOL	5.4

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Based on available data, the classification criteria are not met.

Chemical name	PBT and vPvB assessment
4-NONYL-PHENOL	The substance is not PBT / vPvB
DIMER/TOFA, REACTION PRODUCTS WITH TETA	The substance is not PBT / vPvB
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties This mixture contains a substance that has endocrine disrupting properties with respect to non-target organisms.

Chemical name	Endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100(3) or Commission Regulation (EU) 2018/605(4)
4-NONYL-PHENOL	Environmental effects

12.7. Other adverse effects

Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

Section 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

Section 14: Transport information

IATA

14.1 UN number or ID number	UN3145
14.2 UN proper shipping name	Alkylphenols, liquid, n.o.s.
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN3145, Alkylphenols, liquid, n.o.s., 8, II, Limited Quantity (LQ)
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	A3, A803
ERG Code	8L

IMDG

14.1 UN number or ID number	UN3145
14.2 UN proper shipping name	Alkylphenols, liquid, n.o.s.
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN3145, Alkylphenols, liquid, n.o.s.(4-NONYL-PHENOL), 8, II, Marine pollutant, Limited Quantity (LQ)
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
EmS-No.	F-A, S-B
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN3145
14.2 UN proper shipping name	Alkylphenols, liquid, n.o.s.
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN3145, Alkylphenols, liquid, n.o.s., 8, II, Environmentally Hazardous, Limited Quantity (LQ)
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
Classification code	C3

ADR

14.1 UN number or ID number	UN3145
14.2 UN proper shipping name	Alkylphenols, liquid, n.o.s.
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN3145, Alkylphenols, liquid, n.o.s., 8, II, (E), Environmentally Hazardous, Limited Quantity (LQ)
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
Classification code	C3

Tunnel restriction code (E)

ADN

14.1 UN number or ID number UN3145
 14.2 UN proper shipping name Alkylphenols, liquid, n.o.s.
 14.3 Transport hazard class(es) 8
 14.4 Packing group II
 Description UN3145, Alkylphenols, liquid, n.o.s., 8, II, Environmentally Hazardous, Limited Quantity (LQ)
 14.5 Environmental hazard Yes
 14.6 Special precautions for user
 Special Provisions None
 Classification code C3
 Equipment Requirements PP, EP

Section 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number
TRIETHYLENETETRAMINE - 112-24-3	RG 49, RG 49bis

Germany

Water hazard class (WGK) strongly hazardous to water (WGK 3)

Netherlands**Carcinogenic, mutagenic and reproductive toxic effects**

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
4-NONYL-PHENOL	-	-	Fertility Category 2 Development Category 2

Ordinance on the Incentive Tax on Volatile Organic Compounds (OVOC) SR 814.018 Not applicable
 Storage of Hazardous Material SC 8
 WPO (GSchV) SR 814.201; WPA (GSchG) SR 814.20 Class A

European Union

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

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
TRIETHYLENETETRAMINE - 112-24-3	75	-
4-NONYL-PHENOL - 84852-15-3	75	-
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL - 90-72-2	75	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

This product contains substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals

Chemical name	European Export/Import Restrictions per (EC) 649/2012 - Annex Number
4-NONYL-PHENOL - 84852-15-3	I.1 I.2

Dangerous substance category per Seveso Directive (2012/18/EU)

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

EU - Water Framework Directive (2000/60/EC)

Chemical name	EU - Water Framework Directive (2000/60/EC)
4-NONYL-PHENOL - 84852-15-3	Priority hazardous substance

EU - Environmental Quality Standards (2008/105/EC)

Chemical name	EU - Environmental Quality Standards (2008/105/EC)
4-NONYL-PHENOL - 84852-15-3	Priority hazardous substance

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECI	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies
TCSI	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing Chemicals Inventory
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
TCSI - Taiwan Chemical Substance Inventory

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
 STOT: Specific Target Organ Toxicity
 ATE: Acute Toxicity Estimate
 LC50: 50% Lethal Concentration
 LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation
 + Sensitizers

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet