

SAFETY DATA SHEET



INERTA 165 A HARDENER

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

1.1 Product identifier

Product name : INERTA 165 A HARDENER

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

Product use : Hardener.

1.3 Details of the supplier of the safety data sheet

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

e-mail address of person responsible for this SDS : Prod-safe@teknos.com

National contact

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 3, H226
Acute Tox. 4, H302
Skin Corr. 1A, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Muta. 2, H341
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms



Signal word : Danger

Hazard statements

H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H341 - Suspected of causing genetic defects.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Date of issue/Date of revision

: 20/09/2022

Date of previous issue

: 16/04/2020

Version : 5

1/20

INERTA 165 A HARDENER

Label No : 88941

SECTION 2: Hazards identification

Prevention	: P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment.
Response	: P391 - Collect spillage. P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: Fatty acids, C16 and C18-unsatd., polymers with bisphenol A, Bu glycidyl ether, epichlorohydrin and triethylenetetramine 2,2,4-trimethylhexane-1,6-diamine Bis[4-(2,3-epoxypropoxy)phenyl]propane iso-butanol
Supplemental label elements	: Contains epoxy constituents. May produce an allergic reaction.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	: None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Fatty acids, C16 and C18-unsatd., polymers with bisphenol A, Bu glycidyl ether, epichlorohydrin and triethylenetetramine	REACH #: 01-2119983535-26 CAS: 105839-18-7	≥10 - ≤24	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
2,2,4-trimethylhexane-1,6-diamine	REACH #: 01-2119560598-25 EC: 247-063-2 CAS: 25513-64-8	≥10 - ≤25	Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317	ATE [Oral] = 500 mg/kg	[1]
Xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	<10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 (oral, inhalation) Asp. Tox. 1, H304	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
Bis[4-(2,3-epoxypropoxy)phenyl]propane	REACH #: 01-2119456619-26 EC: 216-823-5	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319:	[1]

SECTION 3: Composition/information on ingredients

iso-butanol	CAS: 1675-54-3 Index: 603-073-00-2		Aquatic Chronic 2, H411	C ≥ 5%	
	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≤5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	-	[1]
phenol	EC: 203-632-7 CAS: 108-95-2	≤5	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 STOT RE 2, H373 Aquatic Chronic 2, H411	ATE [Oral] = 100 mg/kg ATE [Dermal] = 630 mg/kg ATE [Inhalation (vapours)] = 3 mg/l	[1] [2]
Ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) (oral, inhalation) Asp. Tox. 1, H304	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
2-(4-methylcyclohex-3-en-1-yl)propan-2-ol	REACH #: 01-2119553062-49 EC: 701-188-3	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319	-	[1]
Benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≤3	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	ATE [Oral] = 1230 mg/kg ATE [Inhalation (dusts and mists)] = 4.2 mg/l	[1]
Reaction mass of 1-Methyl-4-(1-methylethenyl)cyclohexene and 1-Methyl-4-(1-methylethylidene)-cyclohexene and 1-methyl-4-(propan-2-yl)cyclohexa-1,3-diene	REACH #: 01-2119969963-17 CAS: 1329-99-3	≤0.56	Flam. Liq. 3, H226 Skin Sens. 1, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
Amines, polyethylenepoly-, triethylenetetramine fraction	REACH #: 01-2119487919-13 EC: 292-588-2 CAS: 90640-67-8	≤0.3	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412 EUH071 See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 500 mg/kg ATE [Dermal] = 1100 mg/kg	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : ☒ Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : ☒ Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : ☒ Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : ☒ Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : ☒ No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : ☒ Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : ☒ No specific data.
- Skin contact** : ☒ Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : ☒ Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : ☒ In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : ☒ No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c E2	5000 tonne 200 tonne	50000 tonne 500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Xylene	EU OEL (Europe, 10/2019). [xylene, mixed isomers] Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 50 ppm 8 hours. TWA: 221 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m ³ 15 minutes.
phenol	EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 2 ppm 8 hours. TWA: 8 mg/m ³ 8 hours. STEL: 16 mg/m ³ 15 minutes. STEL: 4 ppm 15 minutes.
Ethylbenzene	EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 100 ppm 8 hours. TWA: 442 mg/m ³ 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m ³ 15 minutes.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Fatty acids, C16 and C18-unsatd., polymers with bisphenol A, Bu glycidyl ether, epichlorohydrin and triethylenetetramine	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.74 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	7.05 mg/m ³	Workers	Systemic
2,2,4-trimethylhexane-1,6-diamine	DNEL	Long term Oral	0.05 mg/kg bw/day	General population	Systemic
Xylene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	14.8 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	108 mg/kg	General	Systemic

SECTION 8: Exposure controls/personal protection

Bis[4-(2,3-epoxypropoxy)phenyl] propane	DNEL	Long term Dermal	bw/day 180 mg/kg bw/day	population Workers	Systemic
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	289 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Local
	DNEL	Short term Inhalation	260 mg/m ³	General population	Local
	DNEL	Short term Inhalation	260 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Local
	DNEL	Long term Dermal	89.3 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.75 mg/ kg bw/day	Workers	Systemic
iso-butanol	DNEL	Long term Inhalation	0.87 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	4.93 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	55 mg/m ³	General population	Local
	DNEL	Long term Inhalation	310 mg/m ³	Workers	Local
phenol	DNEL	Long term Oral	0.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.452 mg/ m ³	General population	Systemic
	DNEL	Long term Dermal	1.23 mg/ kg bw/day	Workers	Systemic
Ethylbenzene	DNEL	Long term Inhalation	8 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	16 mg/m ³	Workers	Local
	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m ³	Workers	Local
	DMEL	Long term Inhalation	442 mg/m ³	Workers	Local
Benzyl alcohol	DMEL	Short term Inhalation	884 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	5.4 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	8 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	20 mg/kg	General	Systemic

SECTION 8: Exposure controls/personal protection

Amines, polyethylenepoly-, triethylenetetramine fraction	DNEL	Long term Inhalation	bw/day 22 mg/m ³	population Workers	Systemic
	DNEL	Short term Inhalation	27 mg/m ³	General population	Systemic
	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	110 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	0.028 mg/cm ²	Workers	Local
	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.43 mg/cm ²	General population	Local
	DNEL	Long term Dermal	0.57 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	1 mg/cm ²	General population	Local
	DNEL	Short term Dermal	8 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	1600 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	5380 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	0.096 mg/m ³	General population	Systemic
	DNEL	Long term Oral	0.14 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.54 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : ☒ Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- ☒ Recommendations : Wear suitable gloves tested to EN374.
- < 1 hour (breakthrough time): ☒ Nitrile gloves. thickness > 0.3 mm
- > 8 hours (breakthrough time): ☒ H / Silver Shield® gloves.
- ☒ Wash hands before breaks and immediately after handling the product.
- Body protection** : ☒ Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : ☒ Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : ☒ Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Filter type: ☒ A
- Filter type (spray application): ☒ A P
- Environmental exposure controls** : ☒ Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : ☒ Liquid.
- Colour** : ☒ Various
- Odour** : ☒ Slight
- Odour threshold** : ☒ Not available.
- Melting point/freezing point** : ☒ Not available.
- Initial boiling point and boiling range** :

Ingredient name	°C	°F	Method
<input checked="" type="checkbox"/> iso-butanol	108	226.4	OECD 103
Ethylbenzene	136.1	277	OECD 104

- Flammability** : ☒ Not available.
- Lower and upper explosion limit** : ☒ Lower: 0.8%
Upper: 13%
- Flash point** : ☒ Closed cup: 25°C (77°F)
- Auto-ignition temperature** :

SECTION 9: Physical and chemical properties

Ingredient name	°C	°F	Method
iso-butanol	415	779	
Xylene	432	809.6	

Decomposition temperature : Not available.
pH : Not applicable.
Viscosity : Kinematic (40°C): >20.5 mm²/s
Solubility(ies) :

Not available.

Solubility in water : Not available.
Partition coefficient: n-octanol/ water : Not applicable.
Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
iso-butanol	<12	<1.6	DIN EN 13016-2			
Ethylbenzene	9.3	1.2				

Relative density : Not available.
Density : 1.1 g/cm³
Vapour density : Not available.
Explosive properties : Not available.
Oxidising properties : Not available.
Particle characteristics
Median particle size : Not applicable.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
oxidising materials
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Xylene	LC50 Inhalation Vapour	Rat	21.7 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Bis[4-(2,3-epoxypropoxy)phenyl]propane	LD50 Dermal	Rabbit	20 g/kg	-
iso-butanol	LC50 Inhalation Vapour	Rat	19200 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	2460 mg/kg	-
phenol	LC50 Inhalation Vapour	Rat	316 mg/m ³	4 hours
	LD50 Dermal	Rabbit	630 mg/kg	-
	LD50 Dermal	Rat	669 mg/kg	-
	LD50 Oral	Rat	317 mg/kg	-
Ethylbenzene	LC50 Inhalation Dusts and mists	Rat	29000 mg/l	4 hours
	LD50 Dermal	Rabbit	15400 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Benzyl alcohol	LC50 Inhalation Dusts and mists	Rat - Male, Female	4200 mg/m ³	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1230 mg/kg	-

Conclusion/Summary : Harmful if swallowed.

Acute toxicity estimates

Route	ATE value
Oral	1335.27 mg/kg
Dermal	7239.62 mg/kg
Inhalation (vapours)	46.47 mg/l
Inhalation (dusts and mists)	233.46 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Bis[4-(2,3-epoxypropoxy)phenyl]propane	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
phenol	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 mg	-
	Eyes - Severe irritant	Rabbit	-	5 mg	-
	Skin - Mild irritant	Rabbit	-	100 mg	-
	Skin - Severe irritant	Pig	-	0.5 minutes 400 uL	-
Ethylbenzene	Skin - Severe irritant	Rabbit	-	535 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-
Benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-

Conclusion/Summary : Causes severe skin burns and eye damage.

Sensitisation

Conclusion/Summary : May cause an allergic skin reaction.

Mutagenicity

Conclusion/Summary : Suspected of causing genetic defects.

SECTION 11: Toxicological information

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene	Category 3	-	Respiratory tract irritation
iso-butanol	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene	Category 2	oral, inhalation	-
phenol	Category 2	-	-
Ethylbenzene	Category 2	oral, inhalation	hearing organs

Aspiration hazard

Product/ingredient name	Result
Xylene Ethylbenzene Reaction mass of 1-Methyl-4-(1-methylethenyl)cyclohexene and 1-Methyl-4-(1-methylethylidene)-cyclohexene and 1-methyl-4-(propan-2-yl)cyclohexa-1,3-diene	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
Ingestion : Adverse symptoms may include the following:
stomach pains

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

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

SECTION 11: Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : Suspected of causing genetic defects.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
iso-butanol	Acute LC50 600 mg/l Marine water Acute LC50 1030000 µg/l Fresh water	Crustaceans - Artemia salina Daphnia - Daphnia magna - Neonate	48 hours 48 hours
phenol	Acute LC50 1330000 µg/l Fresh water Acute EC50 36 mg/l Marine water	Fish - Oncorhynchus mykiss Algae - Hormosira banksii - Gamete	96 hours 72 hours
	Acute EC50 10 ppm Marine water	Algae - Macrocystis pyrifera - Young	4 days
	Acute EC50 94 mg/l Fresh water	Aquatic plants - Lemna aequinoctialis	96 hours
	Acute EC50 4200 µg/l Fresh water Acute LC50 800 µg/l Marine water	Daphnia - Daphnia magna Crustaceans - Archaeomysis kokuboi - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 48 hours
	Acute LC50 1.75 µg/l Fresh water Chronic NOEC 16 µg/l Marine water	Fish - Cyprinus carpio - Larvae Algae - Hormosira banksii - Gamete	96 hours 72 hours
Benzyl alcohol	Chronic NOEC 1.5 mg/l Fresh water Chronic NOEC 118 µg/l Fresh water Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Fish - Lepomis macrochirus	21 days 90 days 96 hours

Conclusion/Summary : Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
iso-butanol	-	74 % - Readily - 28 days	-	-

Conclusion/Summary : This product has not been tested for biodegradation.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
iso-butanol	-	-	Readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
2,2,4-trimethylhexane-1,6-diamine	-0.3	-	low
Xylene	3.12	8.1 to 25.9	low
iso-butanol	1	-	low
phenol	1.47	647	high
Ethylbenzene	3.6	-	low
Benzyl alcohol	0.87	-	low
Amines, polyethylenepoly-, triethylenetetramine fraction	-2.65	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.













European waste catalogue (EWC) : 080111*, 200127*

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN2924	UN2924	UN2924	UN2924
14.2 UN proper shipping name	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (xylene, 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (xylene, 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (xylene, 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (xylene, 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine)
14.3 Transport hazard class(es)	3(8)   	3(8)   	3(8)   	3(8)   
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID

- The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Tunnel code** (D/E)

ADN

- The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IMDG

- The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA

- The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user

- Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments

- Not relevant/applicable due to nature of the product.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles



SECTION 15: Regulatory information

Other EU regulations

Industrial emissions
(integrated pollution
prevention and control) -
Air :  Not listed

Industrial emissions
(integrated pollution
prevention and control) -
Water :  Not listed

Ozone depleting substances (1005/2009/EU)

Not listed.


Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

 This product is controlled under the Seveso Directive.

Danger criteria

Category

 5c
E2

National regulations

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.


Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment

:  This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Date of issue/Date of revision

: 20/09/2022

Date of previous issue

: 16/04/2020


Version : 5

17/20


 NERTA 165 A HARDENER

Label No :  8941


SECTION 16: Other information

Classification	Justification
 Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

 H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

 Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of issue/ Date of revision : 20/09/2022

Date of previous issue : 16/04/2020

Version : 5

 MERTA 165 A HARDENER

 variants

Notice to reader

Date of issue/Date of revision : 20/09/2022 Date of previous issue : 16/04/2020 Version : 5 18/20

 MERTA 165 A HARDENER

Label No : 38941

SECTION 16: Other information

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

