SAFETY DATA SHEET

TEKNOTHERM 4400 - All variants

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

1.1 Product identifier

Product name : TEKNOTHERM 4400 - All variants

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

Product use : Paint.

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 (UK) Limited, 7 Longlands Rd, Bicester, Oxfordshire OX26 5AH, United Kingdom. Tel. +44 (0) 1869 208005.

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : NHS: 111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 3, H226
Skin Irrit. 2, H315
Eye Dam. 1, H318
Skin Sens. 1, H317
STOT RE 2, H373
Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

SECTION 2: Hazards identification

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe vapour.

Response : P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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.

Supplemental label elements :

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

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	Type
Solvent Naphta (Petroleum), heavy aromatic	REACH #: 01-2119463583-34 EC: 265-198-5 CAS: 64742-94-5 Index: 649-424-00-3	≤12	STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
Xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤12	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	[1] [2]
Phenol, 4,4'-(1-methylethylidene) bis-, polymer with 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]bis [oxirane	CAS: 25036-25-3	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
iso-butanol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≤5.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
2-Butoxyethanol	REACH #: 01-2119475108-36 EC: 203-905-0 CAS: 111-76-2 Index: 603-014-00-0	≤5	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1] [2]
Ethylbenzene	REACH #: 01-2119489370-35	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332	[1] [2]

SECTION 3: Composition/information on ingredients

	EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4		STOT RE 2, H373 (hearing organs) (oral, inhalation) Asp. Tox. 1, H304	
2-(2-butoxyethoxy)ethanol	REACH #: 01-2119475104-44 EC: 203-961-6 CAS: 112-34-5 Index: 603-096-00-8	≤3	Eye Irrit. 2, H319	[1] [2]
Butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤1.2	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
Reaction products of 2-butoxyethanol and 2-dimethylaminoethanol and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane and orthophosphoric acid	REACH #: 01-2120768442-51 EC: 701-449-1	<3	Skin Sens. 1B, H317 Repr. 2, H361 Aquatic Chronic 3, H412	[1]
2-ethoxy-1-methylethyl acetate	REACH #: 01-2119475116-39 EC: 259-370-9 CAS: 54839-24-6 Index: 603-177-00-8	≤1	Flam. Liq. 3, H226 STOT SE 3, H336	[1]
n-Butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	<1	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
Propan-1-ol	REACH #: 01-2119486761-29 EC: 200-746-9 CAS: 71-23-8 Index: 603-003-00-0	≤0.3	Flam. Liq. 2, H225 Eye Dam. 1, H318 STOT SE 3, H336	[1] [2]
crystalline silica, respirable powder	EC: 238-878-4 CAS: 14808-60-7	≤0.3	Not classified.	[2]
Propan-2-ol	REACH #: 01-2119457558-25 EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≤0.3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1] [2]
Ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≤0.1	Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1] [2]
2-Dimethylaminoethanol	REACH #: 01-2119492298-24 EC: 203-542-8 CAS: 108-01-0 Index: 603-047-00-0	<0.1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
Toluene	REACH #: 01-2119471310-51 EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	≤0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304	[1] [2]
Propylene glycol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≤0.1	Not classified.	[2]

SECTION 3: Composition/information on ingredients

methanol	REACH #: 01-2119433307-44 EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X	<0.1	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370	[1] [2]
Formaldehyde	REACH #: 01-2119488953-20 EC: 200-001-8 CAS: 50-00-0 Index: 605-001-00-5	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H335	[1] [2]
Butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	≤0.1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	[1] [2]
bisphenol A	REACH #: 01-2119457856-23 EC: 201-245-8 CAS: 80-05-7 Index: 604-030-00-0	≤0.1	Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360F STOT SE 3, H335 Aquatic Chronic 2, H411	[1] [2] [3] [4]
cumene	EC: 202-704-5 CAS: 98-82-8 Index: 601-024-00-X	≤0.1	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1] [2]
benzene	EC: 200-753-7 CAS: 71-43-2 Index: 601-020-00-8	<0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
Phenol	REACH #: 01-2119471329-32 EC: 203-632-7 CAS: 108-95-2 Index: 604-001-00-2	<0.1	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 **See Section 16 for the full text of the H statements declared above.**	[1] [2]

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
[3] Substance of equivalent concern
[4] Substance with carcinogenic, mutagenic or reproductive toxicity properties

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.

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 : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, 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 harmful 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
sulfur 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 British standard BS 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 spilt 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 spilt 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.

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. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. 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.

SECTION 6: Accidental release measures

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. 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. Store locked up. 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. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Xylene

EH40/2005 WELs (United Kingdom (UK), 1/2020) [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.
STEL 15 minutes: 441 mg/m³.
TWA 8 hours: 50 ppm.
TWA 8 hours: 220 mg/m³.
STEL 15 minutes: 100 ppm.

iso-butanol

EH40/2005 WELs (United Kingdom (UK), 1/2020)
STEL 15 minutes: 231 mg/m³.
STEL 15 minutes: 75 ppm.
TWA 8 hours: 154 mg/m³.

	TWA 8 hours: 50 ppm.
2-Butoxyethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 50 ppm. TWA 8 hours: 25 ppm. STEL 15 minutes: 246 mg/m³. TWA 8 hours: 123 mg/m³.
Ethylbenzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 552 mg/m³. STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m³.
2-(2-butoxyethoxy)ethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** TWA 8 hours: 10 ppm. TWA 8 hours: 67.5 mg/m³. STEL 15 minutes: 15 ppm. STEL 15 minutes: 101.2 mg/m³.
Butan-1-ol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 154 mg/m³. STEL 15 minutes: 50 ppm.
n-Butyl acetate	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 966 mg/m³. STEL 15 minutes: 200 ppm. TWA 8 hours: 724 mg/m³. TWA 8 hours: 150 ppm.
Propan-1-ol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 625 mg/m³. STEL 15 minutes: 250 ppm. TWA 8 hours: 500 mg/m³. TWA 8 hours: 200 ppm.
crystalline silica, respirable powder	**EH40/2005 WELs (United Kingdom (UK), 1/2020) [silica, respirable crystalline]** Carc. TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction.
Propan-2-ol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 1250 mg/m³. STEL 15 minutes: 500 ppm. TWA 8 hours: 999 mg/m³. TWA 8 hours: 400 ppm.
Ethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** TWA 8 hours: 1000 ppm. TWA 8 hours: 1920 mg/m³.
2-Dimethylaminoethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 22 mg/m³. STEL 15 minutes: 6 ppm. TWA 8 hours: 2 ppm. TWA 8 hours: 7.4 mg/m³.
Toluene	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 384 mg/m³. TWA 8 hours: 191 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm.
Propylene glycol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** TWA 8 hours: 474 mg/m³. Form: total vapour and particulates. TWA 8 hours: 150 ppm. Form: total vapour and particulates. TWA 8 hours: 10 mg/m³. Form: Particulate.
methanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 333 mg/m³. STEL 15 minutes: 250 ppm.

	TWA 8 hours: 266 mg/m³. TWA 8 hours: 200 ppm.
Formaldehyde	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Carc. STEL 15 minutes: 2.5 mg/m³. STEL 15 minutes: 2 ppm. TWA 8 hours: 2 ppm. TWA 8 hours: 2.5 mg/m³.
Butanone	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 899 mg/m³. STEL 15 minutes: 300 ppm. TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm.
bisphenol A	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** TWA 8 hours: 2 mg/m³.
cumene	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 250 mg/m³. STEL 15 minutes: 50 ppm. TWA 8 hours: 25 ppm. TWA 8 hours: 125 mg/m³.
benzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Carc. Absorbed through skin. TWA 8 hours: 1 ppm. TWA 8 hours: 3.25 mg/m³.
Phenol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. TWA 8 hours: 2 ppm. STEL 15 minutes: 16 mg/m³. STEL 15 minutes: 4 ppm. TWA 8 hours: 7.8 mg/m³.

Biological exposure indices

Product/ingredient name	Exposure indices
Xylene	**EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Xylene, o-, m-, p- or mixed isomers]** BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.
2-Butoxyethanol	**EH40/2005 BMGVs (United Kingdom (UK), 1/2020)** BGV: 240 mmol/mol creatinine, butoxyacetic acid [in urine]. Sampling time: post shift.
Butanone	**EH40/2005 BMGVs (United Kingdom (UK), 1/2020)** BGV: 70 µmol/l, butan-2-one [in urine]. Sampling time: post shift.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS 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	Result

Solvent Naphta (Petroleum), heavy aromatic	**DNEL - General population - Long term - Oral** 0.03 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.28 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.69 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 0.69 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.95 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 2.31 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 2.31 mg/m³ Effects: Systemic **DNEL - General population - Short term - Oral** 25.6 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Inhalation** 143.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 160.23 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 226 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 384 mg/m³ Effects: Systemic
Xylene	**DNEL - General population - Long term - Oral** 5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 65.3 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 65.3 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 125 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 212 mg/kg bw/day

	Effects: Systemic **DNEL - Workers - Long term - Inhalation** 221 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 221 mg/m³ Effects: Systemic **DNEL - General population - Short term - Inhalation** 260 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 260 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 442 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 442 mg/m³ Effects: Systemic
iso-butanol	**DNEL - General population - Long term - Inhalation** 55 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 310 mg/m³ Effects: Local
2-Butoxyethanol	**DNEL - General population - Long term - Oral** 6.3 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Oral** 26.7 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 59 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 98 mg/m³ Effects: Systemic **DNEL - General population - Short term - Inhalation** 147 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 246 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 426 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1091 mg/m³ Effects: Systemic

Ethylbenzene	**DMEL - Workers - Long term - Inhalation** 442 mg/m³ Effects: Local **DMEL - Workers - Short term - Inhalation** 884 mg/m³ Effects: Systemic **DNEL - General population - Long term - Oral** 1.6 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 15 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 77 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 180 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Inhalation** 293 mg/m³ Effects: Local
2-(2-butoxyethoxy)ethanol	**DNEL - General population - Long term - Oral** 6.25 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 67.5 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 101.2 mg/m³ Effects: Local
Butan-1-ol	**DNEL - General population - Long term - Oral** 1.5625 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 3.125 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 55.357 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 155 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 310 mg/m³ Effects: Local
2-ethoxy-1-methylethyl acetate	**DNEL - General population - Long term - Oral** 13.1 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 62 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal
103 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Inhalation
152 mg/m³
Effects: Systemic

DNEL - General population - Long term - Inhalation
181 mg/m³
Effects: Systemic

DNEL - General population - Short term - Inhalation
1420 mg/m³
Effects: Systemic

DNEL - Workers - Short term - Inhalation
2366 mg/m³
Effects: Systemic

n-Butyl acetate

DNEL - General population - Long term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Oral
2 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Dermal
3.4 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Dermal
6 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal
7 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Dermal
11 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Inhalation
12 mg/m³
Effects: Systemic

DNEL - General population - Long term - Inhalation
35.7 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation
48 mg/m³
Effects: Systemic

DNEL - General population - Short term - Inhalation
300 mg/m³
Effects: Local

DNEL - General population - Short term - Inhalation
300 mg/m³
Effects: Systemic

	DNEL - Workers - Long term - Inhalation 300 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Systemic
Propan-1-ol	**DNEL - General population - Short term - Inhalation** 518 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1037 mg/m³ Effects: Systemic
Propan-2-ol	**DNEL - Workers - Long term - Inhalation** 500 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 888 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 26 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Oral** 51 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 89 mg/m³ Effects: Systemic **DNEL - General population - Short term - Inhalation** 178 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 319 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Inhalation** 1000 mg/m³ Effects: Systemic
Ethanol	**DNEL - Workers - Long term - Inhalation** 380 mg/m³ Effects: Systemic **DNEL - General population - Long term - Oral** 87 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 114 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 206 mg/kg bw/day

	Effects: Systemic **DNEL - Workers - Long term - Dermal** 343 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Inhalation** 950 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 1900 mg/m³ Effects: Local
2-Dimethylaminoethanol	**DNEL - Workers - Short term - Dermal** 100 µg/cm² Effects: Local **DNEL - General population - Long term - Oral** 0.148 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.25 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.43755 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Dermal** 1.2 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 1.76 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 1.76 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 5.28 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 13.53 mg/m³ Effects: Local
Toluene	**DNEL - General population - Long term - Oral** 8.13 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 56.5 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 56.5 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 192 mg/m³ Effects: Local

	DNEL - Workers - Long term - Inhalation 192 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 226 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Inhalation** 226 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 226 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 384 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Inhalation** 384 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 384 mg/m³ Effects: Systemic
Propylene glycol	**DNEL - General population - Long term - Inhalation** 10 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 10 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 50 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 168 mg/m³ Effects: Systemic
methanol	**DNEL - General population - Short term - Oral** 4 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 4 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Dermal** 4 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 4 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Dermal** 20 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 20 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Inhalation
26 mg/m³
Effects: Local

DNEL - General population - Long term - Inhalation
26 mg/m³
Effects: Local

DNEL - General population - Short term - Inhalation
26 mg/m³
Effects: Systemic

DNEL - General population - Long term - Inhalation
26 mg/m³
Effects: Systemic

DNEL - Workers - Short term - Inhalation
130 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation
130 mg/m³
Effects: Local

DNEL - Workers - Short term - Inhalation
130 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation
130 mg/m³
Effects: Systemic

Formaldehyde

DNEL - General population - Long term - Dermal
12 µg/cm²
Effects: Local

DNEL - Workers - Long term - Dermal
37 µg/cm²
Effects: Local

DNEL - General population - Long term - Inhalation
0.1 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation
0.375 mg/m³
Effects: Local

DNEL - Workers - Short term - Inhalation
0.75 mg/m³
Effects: Local

DNEL - General population - Long term - Inhalation
3.2 mg/m³
Effects: Systemic

DNEL - General population - Long term - Oral
4.1 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Inhalation
9 mg/m³
Effects: Systemic

DNEL - General population - Long term - Dermal
102 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal
240 mg/kg bw/day
Effects: Systemic

Butanone

DNEL - General population - Long term - Oral
31 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Inhalation
106 mg/m³
Effects: Systemic

DNEL - General population - Long term - Dermal
412 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Inhalation
450 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation
600 mg/m³
Effects: Systemic

DNEL - Workers - Short term - Inhalation
900 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Dermal
1161 mg/kg bw/day
Effects: Systemic

bisphenol A

DNEL - General population - Short term - Dermal
24 µg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Dermal
24 µg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Oral
53 µg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Oral
53 µg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Dermal
66 µg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal
66 µg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Inhalation
1 mg/m³
Effects: Local

DNEL - General population - Long term - Inhalation
1 mg/m³

	Effects: Local **DNEL - General population - Short term - Inhalation** 1 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 1 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 2 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 2 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 2 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 2 mg/m³ Effects: Systemic
cumene	**DNEL - General population - Long term - Dermal** 1.2 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 15.4 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 100 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 250 mg/m³ Effects: Local **DNEL - General population - Long term - Oral** 5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 16.6 mg/m³ Effects: Systemic
benzene	**DNEL - General population - Long term - Inhalation** 0.14 mg/m³ Effects: Systemic
Phenol	**DNEL - General population - Long term - Inhalation** 0.452 mg/m³ Effects: Systemic **DNEL - General population - Long term - Oral** 0.5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 0.5 mg/kg bw/day Effects: Systemic

DNEL - Workers - Long term - Dermal
1.23 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Inhalation
8 mg/m³
Effects: Systemic

DNEL - Workers - Short term - Inhalation
16 mg/m³
Effects: Local

PNECs

Not 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

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

1 - 4 hours (breakthrough time): 4H / Silver Shield® gloves.

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 British Standard BS 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.

SECTION 8: Exposure controls/personal protection

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
iso-butanol	108	226.4	OECD 103
Butan-1-ol	119	246.2	OECD 103

Flammability (solid, gas) : Not available.

Upper/lower flammability or explosive limits : Lower: 0.8% (xylene)
Upper: 11.3% (butan-1-ol)

Flash point : Closed cup: 25°C (77°F)

Auto-ignition temperature :

Ingredient name	°C	°F	Method
2-(2-butoxyethoxy)ethanol	210	410	DIN 51794
Solvent Naphta (Petroleum), heavy aromatic	220 to 250	428 to 482	ASTM E 659

Decomposition temperature : Not available.

pH : Not applicable.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): Not available.

Solubility(ies) :

Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
iso-butanol	<12.00102	<1.6	DIN EN 13016-2			
Ethylbenzene	9.30076	1.2				

Relative density : Not available.

Density : 1.1 g/cm³

Vapour density : Not available.

Explosive properties : Not available.

Oxidising properties : Not available.

SECTION 9: Physical and chemical properties

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

Not available.

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 toxicological effects

Acute toxicity

Product/ingredient name	Result
Xylene	**Rat - Oral - LD50** 4300 mg/kg Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes **Rat - Inhalation - LC50 Vapour** 21.7 mg/l [4 hours]
iso-butanol	**Rat - Oral - LD50** 2460 mg/kg **Rabbit - Dermal - LD50** 3400 mg/kg **Rat - Inhalation - LC50 Vapour** 19200 mg/m³ [4 hours]
Ethylbenzene	**Rat - Oral - LD50** 3500 mg/kg **Rabbit - Dermal - LD50** 15400 mg/kg **Rat - Inhalation - LC50 Dusts and mists** 29000 mg/l [4 hours]
2-(2-butoxyethoxy)ethanol	**Rabbit - Dermal - LD50** 2700 mg/kg **Rat - Oral - LD50** 4500 mg/kg Toxic effects: Behavioral - Tetany Lung, Thorax, or Respiration

	- Dyspnea Liver - Other changes
Butan-1-ol	**Rat - Oral - LD50** 790 mg/kg Toxic effects: Liver - Fatty liver degeneration Kidney, Ureter, and Bladder - Other changes Blood - Other changes **Rabbit - Dermal - LD50** 3400 mg/kg **Rat - Inhalation - LC50 Vapour** 24000 mg/m³ [4 hours]
n-Butyl acetate	**Rat - Oral - LD50** 10760 mg/kg EU **Rabbit - Dermal - LD50** 14112 mg/kg **Rat - Inhalation - LC50 Vapour** 0.74 mg/l [4 hours]
Propan-1-ol	**Rat - Oral - LD50** 1870 mg/kg **Rabbit - Dermal - LD50** 5040 mg/kg
Propan-2-ol	**Rabbit - Dermal - LD50** 12800 mg/kg **Rat - Oral - LD50** 5000 mg/kg Toxic effects: Behavioral - General anesthetic
Ethanol	**Rat - Oral - LD50** 7 g/kg **Rat - Inhalation - LC50 Vapour** 124700 mg/m³ [4 hours]
2-Dimethylaminoethanol	**Rat - Oral - LD50** 2 g/kg **Rat - Inhalation - LC50 Gas.** 1641 ppm [4 hours] Toxic effects: Eye - Lacrimation Behavioral - Ataxia Lung, Thorax, or Respiration - Dyspnea
Toluene	**Rat - Oral - LD50** 636 mg/kg **Rat - Inhalation - LC50 Vapour** 49 g/m³ [4 hours]
Propylene glycol	**Rat - Oral - LD50** 20 g/kg **Rabbit - Dermal - LD50** 20800 mg/kg
methanol	**Rabbit - Dermal - LD50** 15800 mg/kg **Rat - Oral - LD50**

	5600 mg/kg **Rat - Inhalation - LC50 Gas.** 64000 ppm [4 hours] **Rat - Inhalation - LC50 Gas.** 145000 ppm [1 hours]
Formaldehyde	**Rat - Oral - LD50** 100 mg/kg **Rabbit - Dermal - LD50** 270 mg/kg **Rat - Inhalation - LC50 Gas.** 250 ppm [4 hours]
Butanone	**Rabbit - Dermal - LD50** 6480 mg/kg **Rat - Oral - LD50** 2737 mg/kg
bisphenol A	**Rat - Oral - LD50** 1200 mg/kg Toxic effects: Effects on Fertility - Female fertility index (e.g., number of females pregnant per number of sperm-positive females; number of females pregnant per number of females mated)
cumene	**Rat - Oral - LD50** 1400 mg/kg Toxic effects: Gastrointestinal - Gastritis **Rat - Inhalation - LC50 Vapour** 39000 mg/m³ [4 hours]
benzene	**Rat - Oral - LD50** 930 mg/kg Toxic effects: Behavioral - Tremor Behavioral - Convulsions or effect on seizure threshold
Phenol	**Rat - Oral - LD50** 317 mg/kg Toxic effects: Behavioral - Convulsions or effect on seizure threshold **Rat - Dermal - LD50** 669 mg/kg Toxic effects: Behavioral - Tremor Kidney, Ureter, and Bladder - Hematuria Skin After topical exposure - Cutaneous sensitization (experimental) **Rabbit - Dermal - LD50** 630 mg/kg **Rat - Inhalation - LC50 Vapour** 316 mg/m³ [4 hours]

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
TEKNOTHERM 4400	18034.8	9517.2	N/A	58.1	N/A
Xylene	4300	1100	N/A	11	N/A
iso-butanol	2460	3400	N/A	N/A	N/A
2-Butoxyethanol	1200	N/A	N/A	11	N/A
Ethylbenzene	3500	15400	N/A	11	29000
2-(2-butoxyethoxy)ethanol	4500	2700	N/A	N/A	N/A
Butan-1-ol	790	3400	N/A	24	N/A
n-Butyl acetate	10760	14112	N/A	N/A	N/A
Propan-1-ol	N/A	5040	N/A	N/A	N/A
Propan-2-ol	5000	12800	N/A	N/A	N/A
Ethanol	7000	N/A	N/A	124.7	N/A
2-Dimethylaminoethanol	2000	1100	1641	N/A	N/A
Toluene	N/A	N/A	N/A	49	N/A
Propylene glycol	20000	20800	N/A	N/A	N/A
methanol	100	300	64000	3	N/A
Formaldehyde	100	270	250	N/A	N/A
Butanone	2737	6480	N/A	N/A	N/A
cumene	N/A	N/A	N/A	39	N/A
Phenol	100	630	N/A	3	N/A

Skin corrosion/irritation

Product/ingredient name	Result
Solvent Naphta (Petroleum), heavy aromatic	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 uL
Xylene	**Rat - Skin - Mild irritant** Duration of treatment/exposure: 8 hours Amount/concentration applied: 60 uL **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Skin - Moderate irritant** Amount/concentration applied: 100 %
2-Butoxyethanol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg
Ethylbenzene	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 15 mg
Butan-1-ol	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
n-Butyl acetate	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
Propan-1-ol	**Human - Skin - Mild irritant** Duration of treatment/exposure: 47 hours Amount/concentration applied: 100 % **Human - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 %

	Rabbit - Skin - Mild irritant Amount/concentration applied: 500 mg
Propan-2-ol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg
Ethanol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 400 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
2-Dimethylaminoethanol	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 445 mg
Toluene	**Pig - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 250 uL **Rabbit - Skin - Mild irritant** Amount/concentration applied: 435 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg **Rabbit - Skin - Moderate irritant** Amount/concentration applied: 500 mg
Propylene glycol	**Child - Skin - Moderate irritant** Duration of treatment/exposure: 96 hours Amount/concentration applied: 30 % C **Human - Skin - Mild irritant** Duration of treatment/exposure: 168 hours Amount/concentration applied: 500 mg **Human - Skin - Moderate irritant** Duration of treatment/exposure: 72 hours Amount/concentration applied: 104 mg l **Woman - Skin - Mild irritant** Duration of treatment/exposure: 96 hours Amount/concentration applied: 30 %
methanol	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
Formaldehyde	**Human - Skin - Mild irritant** Duration of treatment/exposure: 72 hours Amount/concentration applied: 150 ug l **Human - Skin - Severe irritant** Amount/concentration applied: 0.01 % **Rabbit - Skin - Mild irritant** Amount/concentration applied: 540 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 50 mg **Rabbit - Skin - Severe irritant**

	Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 mg **Rabbit - Skin - Severe irritant** Amount/concentration applied: 0.8 % **Mouse - Skin - Moderate irritant** Amount/concentration applied: 7 % **Rat - Skin - Moderate irritant** Amount/concentration applied: 7 %
Butanone	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 14 mg **Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 402 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
bisphenol A	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 250 mg
cumene	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 10 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 mg
benzene	**Rat - Skin - Mild irritant** Duration of treatment/exposure: 8 hours Amount/concentration applied: 60 uL **Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 15 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
Phenol	**Pig - Skin - Severe irritant** Duration of treatment/exposure: 0.5 minutes Amount/concentration applied: 400 uL **Rabbit - Skin - Mild irritant** Amount/concentration applied: 100 mg **Rabbit - Skin - Severe irritant** Amount/concentration applied: 535 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

SECTION 11: Toxicological information

Product/ingredient name	Result
Xylene	**Rabbit - Eyes - Mild irritant** Amount/concentration applied: 87 mg **Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 5 mg
2-Butoxyethanol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 100 mg
Ethylbenzene	**Rabbit - Eyes - Severe irritant** Amount/concentration applied: 500 mg
2-(2-butoxyethoxy)ethanol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 20 mg
Butan-1-ol	**Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 0.005 Ml **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 1.62 mg
n-Butyl acetate	**Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 mg
Propan-1-ol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg
Propan-2-ol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 mg **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 10 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 100 mg
Ethanol	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 0.066666667 minutes Amount/concentration applied: 100 mg **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 uL **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 500 mg

2-Dimethylaminoethanol	**Rabbit - Eyes - Severe irritant** Amount/concentration applied: 5 uL
Toluene	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 0.5 minutes Amount/concentration applied: 100 mg **Rabbit - Eyes - Mild irritant** Amount/concentration applied: 870 ug **Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 0.1 Ml
Propylene glycol	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Mild irritant** Amount/concentration applied: 100 mg
methanol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 100 mg **Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 40 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 0.1 Ml
Formaldehyde	**Human - Eyes - Mild irritant** Duration of treatment/exposure: 6 minutes Amount/concentration applied: 1 ppm **Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 750 ug **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 750 ug **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 37 % **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 10 mg **Mouse - Eyes - Moderate irritant** Amount/concentration applied: 3 %
bisphenol A	**Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 250 ug
cumene	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Mild irritant** Amount/concentration applied: 86 mg
benzene	**Rabbit - Eyes - Moderate irritant**

	Amount/concentration applied: 88 mg **Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 0.1 Ml
Phenol	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 0.5 minutes Amount/concentration applied: 5 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 5 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result

Solvent Naphta (Petroleum), heavy aromatic	STOT SE 3, H336 (Narcotic effects)
Xylene	STOT SE 3, H335 (Respiratory tract irritation)
iso-butanol	STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects)
Butan-1-ol	STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects)
2-ethoxy-1-methylethyl acetate	STOT SE 3, H336 (Narcotic effects)
n-Butyl acetate	STOT SE 3, H336 (Narcotic effects)
Propan-1-ol	STOT SE 3, H336 (Narcotic effects)
Propan-2-ol	STOT SE 3, H336 (Narcotic effects)
2-Dimethylaminoethanol	STOT SE 3, H335 (Respiratory tract irritation)
Toluene	STOT SE 3, H336 (Narcotic effects)
methanol	STOT SE 1, H370
Formaldehyde	STOT SE 3, H335 (Respiratory tract irritation)
Butanone	STOT SE 3, H336 (Narcotic effects)
bisphenol A	STOT SE 3, H335 (Respiratory tract irritation)
cumene	STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
Xylene	STOT RE 2, H373 (oral, inhalation)
Ethylbenzene	STOT RE 2, H373 (hearing organs) (oral, inhalation)
Toluene	STOT RE 2, H373
benzene	STOT RE 1, H372
Phenol	STOT RE 2, H373

Aspiration hazard

Product/ingredient name	Result
Solvent Naphta (Petroleum), heavy aromatic	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1
Toluene	ASPIRATION HAZARD - Category 1
cumene	ASPIRATION HAZARD - Category 1
benzene	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 skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

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

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result
iso-butanol	**Acute - LC50 - Fresh water** Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* Weight: 1.67 g 1330000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Marine water** Crustaceans - Brine shrimp - *Artemia salina* 600 mg/l [48 hours] Effect: Mortality
2-Butoxyethanol	**Acute - LC50 - Marine water** Fish - Inland silverside - *Menidia beryllina* Size: 40 to 100 mm 1250000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Marine water** Crustaceans - Common shrimp, sand shrimp - *Crangon crangon* 800000 µg/l [48 hours] Effect: Mortality
2-(2-butoxyethoxy)ethanol	**Acute - LC50 - Fresh water** Fish - Bluegill - *Lepomis macrochirus* Size: 33 to 75 mm 1300000 µg/l [96 hours] Effect: Mortality
Butan-1-ol	**Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 33 days; Size: 20.6 mm; Weight: 0.119 g 1730000 µg/l [96 hours] Effect: Mortality **Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna*

	Age: 6 to 24 hours 1983000 µg/l [48 hours] Effect: Intoxication
n-Butyl acetate	**Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 to 32 days; Size: 21.6 mm; Weight: 0.175 g 18000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Marine water** Crustaceans - Brine shrimp - *Artemia salina* 32 mg/l [48 hours] Effect: Mortality
Propan-1-ol	**Acute - LC50 - Marine water** Fish - Bleak - *Alburnus alburnus* Size: 8 to 10 cm 3800000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Fresh water** Crustaceans - Scud - *Gammarus pulex* 1000000 µg/l [48 hours] Effect: Mortality **Acute - EC50 - Fresh water** Algae - Green algae - *Selenastrum sp.* 4480000 µg/l [96 hours]
Propan-2-ol	**Acute - LC50 - Marine water** Crustaceans - Common shrimp, sand shrimp - *Crangon crangon* 1400000 µg/l [48 hours] Effect: Mortality **Acute - LC50 - Fresh water** Fish - Harlequinfish, red rasbora - *Rasbora heteromorpha* Size: 1 to 3 cm 4200000 µg/l [96 hours] Effect: Mortality
Ethanol	**Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* 2000 µg/l [48 hours] Effect: Physiology **Acute - LC50 - Fresh water** Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* 42000 µg/l [4 days] Effect: Mortality **Acute - EC50 - Marine water** Algae - Green algae - *Ulva pertusa* 17.921 mg/l [96 hours] Effect: Reproduction **Chronic - NOEC - Marine water** Algae - Green algae - *Ulva pertusa* 4.995 mg/l [96 hours] Effect: Reproduction **Chronic - NOEC - Fresh water** Fish - Eastern mosquitofish - *Gambusia holbrooki* - Larvae Age: 3 days

	0.375 µl/l [12 weeks] Effect: Morphology **Chronic - NOEC - Fresh water** Daphnia - Water flea - *Daphnia magna* - Neonate Age: <24 hours 100 µl/l [21 days] Effect: Mortality
Toluene	**Acute - LC50 - Fresh water** Fish - Coho salmon,silver salmon - *Oncorhynchus kisutch* - Fry Weight: 1 g 5500 µg/l [96 hours] Effect: Mortality **Acute - EC50 - Fresh water** Algae - Green algae - *Pseudokirchneriella subcapitata* 12500 µg/l [72 hours] Effect: Growth **Chronic - NOEC - Fresh water** Daphnia - Water flea - *Daphnia magna* Age: ≤24 hours 1000 µg/l [21 days] Effect: Reproduction **Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* - Neonate Age: ≤24 hours 5.56 mg/l [48 hours] Effect: Intoxication
Propylene glycol	**Acute - LC50 - Fresh water** EU Fish - Trout - *Oncorhynchus mykiss* 40613 mg/l [96 hours] **Acute - EC50 - Fresh water** EU Algae - Algae 19300 mg/l [96 hours] **Acute - LC50 - Fresh water** Crustaceans - Water flea - *Ceriodaphnia dubia* Age: <24 hours 18340000 µg/l [48 hours] Effect: Mortality
methanol	**Acute - LC50 - Marine water** Crustaceans - Common shrimp, sand shrimp - *Crangon crangon* - Adult 2500000 µg/l [48 hours] Effect: Mortality **Acute - EC50 - Marine water** Algae - Green algae - *Ulva pertusa* 16.912 mg/l [96 hours] Effect: Reproduction **Chronic - NOEC - Marine water** Algae - Green algae - *Ulva pertusa* 9.96 mg/l [96 hours] Effect: Reproduction **Acute - LC50 - Fresh water**

	Fish - Zebra danio - *Danio rerio* - Egg Age: 12 290 mg/l [96 hours] Effect: Mortality
Formaldehyde	**Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia pulex* - Neonate Age: <24 hours 5800 µg/l [48 hours] Effect: Intoxication **Acute - EC50 - Marine water** Algae - Green algae - *Ulva pertusa* 0.788 mg/l [96 hours] Effect: Reproduction **Acute - LC50 - Fresh water** US EPA Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* 1.41 ppm [96 hours] Effect: Mortality **Chronic - NOEC - Fresh water** Fish - Chinook salmon - *Oncorhynchus tshawytscha* - Egg 953.9 ppm [43 days] Effect: Mortality **Chronic - NOEC - Marine water** Algae - Haptophyte - *Isochrysis galbana* - Exponential growth phase Age: 4 to 5 days 0.005 mg/l [96 hours] Effect: Population
Butanone	**Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* - Larvae Age: <24 hours 5091000 µg/l [48 hours] Effect: Intoxication **Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 days; Size: 22 mm; Weight: 0.167 g 3220000 µg/l [96 hours] Effect: Mortality **Acute - EC50 - Marine water** Algae - Diatom - *Skeletonema costatum* >500000 µg/l [96 hours] Effect: Population
bisphenol A	**Acute - EC50 - Marine water** Algae - Diatom - *Skeletonema costatum* 1000 µg/l [96 hours] Effect: Growth **Chronic - NOEC - Fresh water** Fish - Goldfish - *Carassius auratus* - Adult Age: 2 to 3 years 0.2 µg/l [90 days] Effect: Reproduction **Chronic - NOEC - Fresh water** Algae - Algae - *Chlorolobion braunii* - Exponential growth phase 2 mg/l [4 days]

	Effect: Population **Acute - LC50 - Marine water** Fish - Rivulus - *Rivulus marmoratus* - Embryo 3.5 mg/l [96 hours] Effect: Mortality **Chronic - NOEC - Marine water** Crustaceans - Harpacticoid copepod - *Tigriopus japonicus* - Nauplii Age: <24 hours 10 µg/l [21 days] Effect: Reproduction **Acute - LC50 - Marine water** Crustaceans - Brine shrimp - *Artemia sinica* Age: 15 days 50.4 µg/l [48 hours] Effect: Mortality
cumene	**Acute - LC50 - Fresh water** Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* 2700 µg/l [96 hours] Effect: Mortality **Acute - EC50 - Marine water** Crustaceans - Brine shrimp - *Artemia sp.* - Nauplii Age: 2 to 3 7.4 mg/l [48 hours] Effect: Intoxication
benzene	**Chronic - NOEC - Marine water** Fish - Striped bass - *Morone saxatilis* - Juvenile (Fledgling, Hatchling, Weanling) Size: 18.1 cm; Weight: 3.39 g 1.5 to 5.4 µl/l [4 weeks] Effect: Growth **Acute - LC50 - Fresh water** Fish - Pink salmon - *Oncorhynchus gorbuscha* - Fry 5.28 µl/l [96 hours] Effect: Mortality **Acute - EC50 - Fresh water** Algae - Green algae - *Pseudokirchneriella subcapitata* 29000 µg/l [72 hours] Effect: Growth **Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* - Neonate Age: ≤24 hours 9.23 mg/l [48 hours] Effect: Intoxication **Chronic - NOEC - Fresh water** Daphnia - Water flea - *Daphnia magna* Age: <24 hours 98 mg/l [21 days] Effect: Reproduction **Chronic - EC10 - Fresh water** Algae - Green algae - *Desmodesmus subspicatus* >1360 mg/l [96 hours] Effect: Population

Phenol

Acute - LC50 - Fresh water
Fish - common carp - *Cyprinus carpio* - Larvae
Size: 8 mm
1.75 µg/l [96 hours]
Effect: Mortality

Acute - LC50 - Marine water
Crustaceans - Opossum shrimp - *Archaeomysis kokuboi* - Juvenile (Fledgling, Hatchling, Weanling)
800 µg/l [48 hours]
Effect: Mortality

Chronic - NOEC - Fresh water
Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss*
118 µg/l [90 days]
Effect: Mortality

Acute - EC50 - Fresh water
Algae - Green algae - *Pseudokirchneriella subcapitata*
Age: 4 to 7 days
61.1 µg/l [96 hours]
Effect: Population

Chronic - NOEC - Fresh water
Daphnia - Water flea - *Daphnia magna*
Age: <24 hours
1.5 mg/l [21 days]
Effect: Reproduction

Chronic - NOEC - Marine water
Algae - Neptune's Necklace - *Hormosira banksii* - Gamete
16 µg/l [72 hours]
Effect: Development

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
iso-butanol	74% [28 days] - Readily

Conclusion/Summary [Product] : Not available.

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

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Solvent Naphta (Petroleum), heavy aromatic	2.8 to 6.5	99 to 5780	High
Xylene	3.12	8.1 to 25.9	Low
iso-butanol	1	-	Low
2-Butoxyethanol	0.81	-	Low
Ethylbenzene	3.6	-	Low
2-(2-butoxyethoxy)ethanol	1	-	Low

Butan-1-ol	1	-	Low
2-ethoxy-1-methylethyl acetate	0.76	-	Low
n-Butyl acetate	2.3	-	Low
Propan-1-ol	0.2	-	Low
Propan-2-ol	0.05	-	Low
Ethanol	-0.35	-	Low
2-Dimethylaminoethanol	-0.55	-	Low
Toluene	2.73	90	Low
Propylene glycol	-1.07	-	Low
methanol	-0.77	<10	Low
Butanone	0.3	-	Low
bisphenol A	3.4	20 to 67	Low
cumene	3.55	35.48	Low
benzene	2.13	11	Low
Phenol	1.47	647	High

12.4 Mobility in soil

Soil/water partition coefficient : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Solvent Naphta (Petroleum), heavy aromatic	No	No	No	No	No	No	No
Xylene	No	No	No	Yes	No	No	No
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane	No	No	No	No	No	No	No
iso-butanol	No	No	No	No	No	No	No
2-Butoxyethanol	No	No	No	No	No	No	No
Ethylbenzene	No	No	No	Yes	No	No	No
2-(2-butoxyethoxy)ethanol	No	No	No	No	No	No	No
Butan-1-ol	No	No	No	No	No	No	No
Reaction products of 2-butoxyethanol and 2-dimethylaminoethanol and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane and orthophosphoric acid	No	No	No	Yes	No	No	No
2-ethoxy-1-methylethyl acetate	No	No	No	No	No	No	No
n-Butyl acetate	No	No	No	No	No	No	No

SECTION 12: Ecological information

Propan-1-ol	No	No	No	No	No	No	No
crystalline silica, respirable powder	No	No	No	No	No	No	No
Propan-2-ol	No	No	No	No	No	No	No
Ethanol	No	No	No	No	No	No	No
2-Dimethylaminoethanol	No	No	No	No	No	No	No
Toluene	No	No	No	Yes	No	No	No
Propylene glycol	No	No	No	No	No	No	No
methanol	No	No	No	No	No	No	No
Formaldehyde	No	No	No	Yes	No	No	No
Butanone	No	No	No	No	No	No	No
bisphenol A	No	No	No	Yes	No	No	No
cumene	No	No	No	No	No	No	No
benzene	No	No	No	Yes	No	No	No
Phenol	No	No	No	Yes	No	No	No

12.6 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.

European waste catalogue (EWC) : 08 01 11*

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	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.

SECTION 14: Transport information

Additional information

ADR/RID : **Tunnel code** (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

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 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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Toxic to reproduction	4,4'-isopropylidenediphenol	Candidate	-	1/12/2017
Substance of equivalent concern for human health	4,4'-isopropylidenediphenol	Candidate	-	1/12/2017
Substance of equivalent concern for environment	4,4'-isopropylidenediphenol	Candidate	-	1/12/2017

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

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

Product/ingredient name	%	Designation [Usage]
TEKNOTHERM 4400	≥90	3
2-(2-butoxyethoxy)ethanol	≤3	55 [Consumer paint]
Toluene	≤0.1	48
methanol	<0.1	69
Formaldehyde	<0.1	72
bisphenol A	≤0.1	66
benzene	<0.1	5 72

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

SECTION 15: Regulatory information

Product/ingredient name	List name	Name on list	Classification	Notes
crystalline silica, respirable powder	EH40/2005 WELs	silica, respirable crystalline	Carc	-
Formaldehyde	EH40/2005 WELs	-	Carc	-
benzene	EH40/2005 WELs	-	Carc	-

EU regulations

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

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

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
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = GB 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

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

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.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
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
Carc. 1A	CARCINOGENICITY - Category 1A
Carc. 1B	CARCINOGENICITY - Category 1B
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. 1B	GERM CELL MUTAGENICITY - Category 1B
Muta. 2	GERM CELL MUTAGENICITY - Category 2
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
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. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 1	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of issue/ Date of revision : 25/03/2025

Date of previous issue : No previous validation

Version : 3

Notice to reader

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.