1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	**B 2410**
Other means of Identification	:	**Liquid Barium Zinc Compound**

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

Use of the Substance/Mixture	:	Manufacture of plastics products Polymer additive Stabilizer
Restrictions on Use	:	None known

1.3 Details of the supplier of the safety data sheet

Company	:	Baerlocher Production USA LLC 5890 Highland Ridge Drive Cincinnati, OH 45232
Telephone	:	Day 330-602-1528, 330-602-1531 or -1530
	:	Night 513-207-1620 or 513-604-2327
E-mail address	:	Hotline.PS@baerlocher.com
Responsible/issuing person	:	Product Safety Department

1.4 Emergency telephone number (0 - 24 h)

Tel.: 800-424-9300 USA or 703-527-3887

2. Hazards identification

2.1 Classification of the substance or mixture

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Reproductive toxicity, Category 1B	H360F: May damage fertility.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

Toxic to Reproduction Category 2	R60: May impair fertility.
Harmful	R65: Harmful: may cause lung damage if swallowed. R20/22: Harmful by inhalation and if swallowed. R48/20/21/22: Harmful: danger of serious damage

	to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
Mutagenic Category 3	R68: Possible risk of irreversible effects.
Sensitising	R43: May cause sensitisation by skin contact.
Irritant	R36/38: Irritating to eyes and skin.
Dangerous for the environment	R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H360F	May damage fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:	
P201	Obtain special instructions before use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves.
P281	Use personal protective equipment as required.
Response:	
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P331	Do NOT induce vomiting.

2.3 Other hazards

The product is combustible.
May produce an allergic reaction.

3. Composition/information on ingredients

3.2 Mixtures

Chemical nature : Preparation contains barium- and zinc carboxylates in organic solvent.

Hazardous components

Chemical Name	CAS-No.	Concentration [%]
Phenol	108-95-2	< 2*
Barium compounds	Trade Secret*	< 20*
Zinc compounds	Trade Secret*	< 20*
Diisodecyl phenyl phosphite	25550-98-5	< 10*
Isodecyl diphenyl phosphite	26544-23-0	< 10*
Triisodecyl phosphite	25448-25-3	< 10*
Distillates (petroleum), hydrotreated light	64742-47-8	>= 25*
2-(2-Butoxyethoxy) ethanol	112-34-5	< 10*
Dibenzoyl methane	120-46-7	< 10*
Phenol, 2,4-Bis (1-methyl-1-phenylethyl) -	2772-45-4	< 25*
Isodecanol (mixed isomers)	25339-17-7	< 10*
Phenol, 2 - (1-Methyl-1-phenylethyl) -4 - (1,1,3,3-Tetramethyl-butyl) -	73936-80-8	< 10*
4 - (α, α-dimethylbenzyl) phenol	599-64-4	< 10*

*Trade Secret – The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first aid measures

General advice : Remove and wash contaminated clothing before re-use.

If inhaled : Move to fresh air.

In case of skin contact : Wash off with soap and plenty of water.
Take off contaminated clothing and shoes immediately.

In case of eye contact : Rinse with plenty of water.

If swallowed : Consult a doctor and show this safety datasheet.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray Foam Carbon dioxide (CO2) Dry chemical Sand
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Smoke and fumes, toxic.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Release of Phenol by hydrolysis.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Remove all sources of ignition. Ensure adequate ventilation. Avoid contact with skin and eyes. Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.
Provide sufficient air exchange and/or exhaust in work rooms.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container.
Keep container tightly closed in a dry and well-ventilated place.

Further information on storage conditions : Handle in accordance with good industrial hygiene and safety practice.

German storage class : 10 Combustible liquids

7.3 Specific end use(s)

: Consult the technical guidelines for the use of this substance/mixture.

8. Exposure controls/personal protection

8.1 Control parameters

		Regulatory Limits			Recommended Limits	
		OSHA PEL		Cal/OSHA PEL	NIOSH REL	ACGIH TLV
Substance	CAS No.	ppm	mg/m³	8-hour TWA (ST) STEL (C) Ceiling	Up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling
Barium, soluble compounds (as Ba)	7440-39-3		0.5	0.5 mg/m³	0.5 mg/m³	0.5 mg/m³
2-(2-butoxyethoxy) ethanol	112-34-5					10 ppm
Distillates (Petroleum), hydrotreated light	64742-47-8					200 mg/m³
Phenol	108-95-2	5	19	5 ppm	5 ppm (C) 15.6 ppm [15-min]	5 ppm

Substance	CAS No.	Regulatory Limits			Recommended Limits	
		OSHA PEL		Cal/OSHA PEL	NIOSH REL	ACGIH TLV
		ppm	mg/m³	8-hour TWA (ST) STEL (C) Ceiling	Up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling
Dibenzoyl methane Respirable fraction	120-46-7		5	5 mg/m³		3 mg/m³

8.2 Exposure controls

Engineering measures

Local exhaust

Personal protective equipment

Respiratory protection : In case of insufficient ventilation:
Protective mask against solvent vapours (A2 Filter)

Hand protection : protective gloves acc. to EN 374, e.g. neoprene, thickness: min. 0,7 mm

Eye protection : Safety glasses

Skin and body protection : Long sleeved clothing
Rubber apron

Hygiene measures : When using do not eat or drink.
Do not smoke.
Wash hands before breaks and at the end of workday.
Shower or bathe at the end of working.
Keep working clothes separately.

Protective measures : antistatic shoes

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour	:	yellowish
Odour	:	characteristic
pH	:	no data available
Boiling point/boiling range	:	237 - 277 °C, Value refers to the solvent.
Flash point	:	> 100 °C
Lower explosion limit	:	ca. 0,5 %(V), 25 °C, Value refers to the solvent.
Upper explosion limit	:	ca. 4,6 %(V), 25 °C, Value refers to the solvent.
Vapour pressure	:	0,03 hPa, 20 °C, Value refers to the solvent.
Density	:	0,8 - 1,0 g/cm3
Water solubility	:	slightly soluble
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	ca. 243 °C, Value refers to the solvent.
Ignition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Odor Threshold	:	No data available
Melting/Freezing Point	:	No data available
Evaporation Rate	:	No data available
Flammability	:	No data available
Vapor Density	:	No data available
Decomposition Temperature	:	No data available

9.2 Other information

No data available

10. Stability and reactivity

10.1 Reactivity

Stable at normal ambient temperature and pressure.

10.2 Chemical stability

No decomposition if stored normally.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid	:	Sources of ignition

10.5 Incompatible materials

Materials to avoid	:	Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products	:	No decomposition if used as directed.

11. Toxicological information

11.1 Information on toxicological effects

Product

Acute oral toxicity	:	Acute toxicity estimate: > 2.000 mg/kg, Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l, 4 h, dust/mist, Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2.000 mg/kg, Calculation method

Components:

Phenol :

Acute oral toxicity	:	LD50: 340 - 540 mg/kg, rat, OECD Test Guideline 401
Acute inhalation toxicity	:	LC0: 0,9 mg/l, 8 h, rat, dust/mist, OECD Test Guideline 403
	:	LC50: > 0,9 mg/l, 4 h, rat, dust/mist, OECD Test Guideline 403
Acute dermal toxicity	:	LD50: 660 mg/kg bw, rat(female), OECD Test Guideline 402
Skin corrosion/irritation	:	Result: irritating, Regulation (EC) No. 761/2009, B.46., 1 h, GLP: yes
	:	Result: Corrosive, OECD Test Guideline 431, 3 min - 1 h, GLP: yes
	:	rabbit, Result: Corrosive, standardised international/national methodology, 24 h
	:	rat, Result: Corrosive, 1 min
Serious eye damage/eye irritation	:	rabbit, Result: Corrosive, OECD Test Guideline 405
Respiratory or skin sensitisation	:	Skin sensitisation
	:	Buehler Test, guinea pig, Result: not sensitising, OECD Test Guideline 406
	:	LLNA, mouse, Result: not sensitising, Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation, Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	Mutagenicity (in vitro mammalian cytogenetic test), CHO, Result: positive, OECD Test Guideline 473
Genotoxicity in vivo	:	In vivo micronucleus test, mouse, 24 - 48 h, OECD Test Guideline 474, GLP: yes, Result: positive
Carcinogenicity	:	mouse, Exposure time: 103 weeks, Oral, OECD Test Guideline 451
	:	rat, Exposure time: 103 weeks, Oral, OECD Test Guideline 451, Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Two-generation reproductive toxicity, rat, Oral, OECD Test Guideline 416, GLP: yes, Based on available data, the classification criteria are not met.
Teratogenicity	:	rat, Test period: 14 d, Oral, standardised international/national methodology, GLP: yes
	:	mouse, Test period: 12 d, Oral, standardised international/national methodology, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	May cause damage to organs through prolonged or repeated exposure., Kidney, Liver, Nervous system, Skin, Heart, Immune system, Lungs, Bone marrow
	:	Remarks: Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Category 2
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Barium Compounds :

Acute oral toxicity	:	LD50: 1.480 mg/kg, rat, OECD Test Guideline 401, GLP: no
	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute oral toxicity, Category 4
Acute inhalation toxicity	:	Based on available data, the classification criteria are not met.

Acute dermal toxicity	:	Read-across (Analogy)
	:	LD50: > 2000 mg/kg bw, rat, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	Read-across (Analogy)
	:	EPISKIN Human Skin Model Test, Result: not irritating, Regulation (EC) No. 761/2009, B.46., 0,25 h, GLP: yes, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: not irritating, OECD Test Guideline 405, GLP: yes, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Skin sensitisation, Read-across (Analogy)
	:	LLNA, mouse, Result: not sensitising, OECD Test Guideline 429, GLP: yes, Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation, Based on available data, the classification criteria are not met.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Read-across (Analogy)
	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	Read-across (Analogy)
	:	In vitro gene mutation study in mammalian cells, mouse lymphoma cells, Result: negative, OECD Test Guideline 476, GLP: yes
	:	Read-across (Analogy)
	:	Mutagenicity (in vitro mammalian cytogenetic test), CHO, Result: negative, OECD Test Guideline 473, GLP: yes, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Read-across (Analogy)
	:	rat, Exposure time: 2 a, Oral, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Read-across (Analogy)
	:	rat / mouse, Oral, Based on available data, the classification criteria are not met.
Teratogenicity	:	Not classified due to lack of data.
	:	Study in progress (external)
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	guinea pig, Oral, Exposure time: 30 d, LOAEL: 50 mg/kg
STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	rat, Oral, Exposure time: 92 d, NOAEL: 61,1 mg/kg, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Barium Compounds :

Acute oral toxicity	:	Read-across (Analogy)
	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute oral toxicity, Category 4
Acute inhalation toxicity	:	Read-across (Analogy)
	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute inhalation toxicity, Category 4
Acute dermal toxicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	Not classified due to lack of data.
Serious eye damage/eye irritation	:	Not classified due to lack of data.
Respiratory or skin sensitisation	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Carcinogenicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	
	:	Classification
	:	Labelling according to EC Directives
	:	Regulation (EC) No 1272/2008, Annex VI, Table 3.1

	:	May damage fertility.
STOT - single exposure	:	Remarks: Read-across (Analogy)
	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Specific target organ toxicity - repeated exposure, Category 1
Aspiration toxicity	:	Not classified due to lack of data.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	CMR effects, Reproductive toxicity, Read-across (Analogy), Category 1B
	:	Likely route of exposure, Ingestion, Inhalation, Skin contact

Barium Compounds :

Acute oral toxicity	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute oral toxicity, Category 4
Acute inhalation toxicity	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute inhalation toxicity, Category 4
Acute dermal toxicity	:	Read-across (Analogy)
	:	LD50: > 2.000 mg/kg, rat, OECD Test Guideline 402, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: not irritating, OECD Test Guideline 404, GLP: yes, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	in vitro assay, Result: Causes serious eye damage., OECD Test Guideline 437, 240 min, GLP: yes
Respiratory or skin sensitisation	:	Skin sensitisation
	:	Read-across (Analogy), Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation
	:	Read-across (Analogy), Based on available data, the classification criteria are not met.
Germ cell mutagenicity		

Genotoxicity in vitro	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Carcinogenicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Read-across (Analogy)
	:	Suspected of damaging the unborn child.
STOT - single exposure	:	Remarks: Not classified due to lack of data.
STOT - repeated exposure	:	Read-across (Analogy), Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Barium Compounds :

Acute oral toxicity	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute oral toxicity, Category 4
Acute inhalation toxicity	:	Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Acute inhalation toxicity, Category 4
Acute dermal toxicity	:	Read-across (Analogy)
	:	LD50: > 2000 mg/kg bw, rat, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: not irritating, OECD Test Guideline 404, 4 h, GLP: yes, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: not irritating, OECD Test Guideline 405, GLP: yes, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Skin sensitisation, Read-across (Analogy)
	:	LLNA, mouse, Result: not sensitising, OECD Test Guideline 429, GLP: yes, Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation, Based on available data, the classification criteria are not met.
Germ cell mutagenicity		

Genotoxicity in vitro	:	Read-across (Analogy)
	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	Read-across (Analogy)
	:	In vitro gene mutation study in mammalian cells, mouse lymphoma cells, Result: negative, OECD Test Guideline 476, GLP: yes
	:	Read-across (Analogy)
	:	Mutagenicity (in vitro mammalian cytogenetic test), CHO, Result: negative, OECD Test Guideline 473, GLP: yes, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Read-across (Analogy)
	:	rat, Exposure time: 2 a, Oral, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Read-across (Analogy)
	:	rat, Oral, Based on available data, the classification criteria are not met.
Teratogenicity	:	Not classified due to lack of data.
	:	Study in progress (external)
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	rat, Oral, Exposure time: 92 d, NOAEL: 61,1 mg/kg, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Zinc Compounds :

Acute oral toxicity	:	Read-across (Analogy)
	:	LD50: > 5.000 mg/kg, rat, OECD Test Guideline 401
	:	Read-across (Analogy)
	:	LD50: 2.565 mg/kg, rat, OECD Test Guideline 423, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Read-across (Analogy)

	:	LC50: > 200 mg/l, 1 h, rat, dust/mist
	:	Read-across (Analogy)
	:	LC50: > 50 mg/l, 4 h, rat, dust/mist, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	Read-across (Analogy)
	:	LD50: > 2000 mg/kg bw, rabbit, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	Read-across (Analogy)
	:	rabbit, Result: not irritating, OECD Test Guideline 404, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	Read-across (Analogy)
	:	rabbit, Result: Irritating to eyes., OECD Test Guideline 405, GLP: yes
Respiratory or skin sensitisation	:	Skin sensitisation, Read-across (Analogy)
	:	Patch test on human volunteers did not demonstrate sensitisation properties., Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation
	:	Not classified due to lack of data.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Read-across (Analogy)
	:	Result: negative, standardised international/national methodology, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	Read-across (Analogy)
	:	standardised international/national methodology, Result: negative, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
Teratogenicity	:	Read-across (Analogy)
	:	Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Read-across (Analogy)
	:	Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Not classified due to lack of data.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Diisodecyl phenyl phosphite :

Acute oral toxicity	:	LD50: > 5.000 mg/kg, rat, OECD Test Guideline 401, GLP: no, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	LC50: > 11,7 mg/l, 1 h, rat, dust/mist, OECD Test Guideline 403, GLP: yes, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD50: > 2.000 mg/kg, rabbit, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: slight irritation, OECD Test Guideline 404, GLP: yes, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: not irritating, OECD Test Guideline 405, GLP: no, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Skin sensitisation
	:	LLNA, mouse, Result: Sensitising, OECD Test Guideline 429, GLP: yes
	:	Respiratory sensitisation, Based on available data, the classification criteria are not met.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	DNA repair-suspension assay, Bacteria, Result: negative, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	In vivo micronucleus test, mouse, Oral, OECD Test Guideline 474, GLP: yes, Result: negative, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Based on available data, the classification criteria are not met.

Reproductive toxicity	:	Read-across (Analogy)
	:	Screening for reproductive/developmental toxicity, rat, Oral, Test period: 8 weeks, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Teratogenicity	:	Read-across (Analogy)
	:	rat, Oral, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	Read-across (Analogy)
STOT - repeated exposure	:	rat, Oral, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Isodecyl diphenyl phosphite :

Acute oral toxicity	:	LD50: 3.840 mg/kg, rat, standardised international/national methodology, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	LC50: > 8,4 mg/l, 1 h, rat, dust/mist, OECD Test Guideline 403, GLP: yes, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD50: > 5.000 mg/kg, rabbit, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: slight irritation, standardised international/national methodology, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: Mild eye irritation, standardised international/national methodology, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Skin sensitisation
	:	Maximisation Test, guinea pig, Result: Sensitising, standardised international/national methodology
	:	Respiratory sensitisation, Based on available data, the

classification criteria are not met.

Germ cell mutagenicity

Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	DNA repair-suspension assay, Bacteria, Result: negative, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	In vivo micronucleus test, mouse, Oral, OECD Test Guideline 474, GLP: yes, Result: negative, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Screening for reproductive/developmental toxicity, rat, Exposure time: 16 w, Oral, NOAEL: 15 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Teratogenicity	:	rat, Oral, NOAEL: 15 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Oral, Exposure time: 16 w, NOAEL: 15 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Triisodecyl phosphite :

Acute oral toxicity	:	LD50: 13.800 mg/kg, rat, OECD Test Guideline 401, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Read-across (Analogy)
	:	LC50: > 12,6 mg/l, 1 h, rat, dust/mist, OECD Test Guideline 403, GLP: yes, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	Read-across (Analogy)
	:	LD50: > 5.000 mg/kg, rabbit, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.

Skin corrosion/irritation	:	rabbit, Result: slight irritation, standardised international/national methodology, 24 h, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: not irritating, standardised international/national methodology, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	LLNA, mouse, Result: Sensitising, OECD Test Guideline 429, GLP: yes
Germ cell mutagenicity		
Genotoxicity in vitro	:	Read-across (Analogy)
	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471, GLP: yes
	:	Read-across (Analogy)
	:	DNA repair-suspension assay, Bacteria, Result: negative, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	Read-across (Analogy)
	:	In vivo micronucleus test, mouse, Oral, OECD Test Guideline 474, GLP: yes, Result: negative, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Screening for reproductive/developmental toxicity, rat, Oral, Test period: 8 weeks, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Teratogenicity	:	rat, Oral, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Oral, NOAEL: 1.000 mg/kg, OECD Test Guideline 422, GLP: yes, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Based on available data, the classification criteria are not met.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

Distillates (petroleum), hydrotreated light :

Acute oral toxicity	:	LD50: > 5.000 mg/kg, rat, OECD Test Guideline 420, GLP: yes, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	LC50: > 5,28 mg/l, 4 h, rat, vapour, OECD Test Guideline 403, GLP: yes, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD50: > 2.000 mg/kg, rabbit, OECD Test Guideline 402, GLP: yes, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: irritating, standardised international/national methodology, 24 h, GLP: yes
Serious eye damage/eye irritation	:	rabbit, Result: not irritating, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Skin sensitisation
	:	Buehler Test, guinea pig, Result: not sensitising, OECD Test Guideline 406, GLP: yes, Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation
	:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471
	:	In vitro gene mutation study in mammalian cells, mouse lymphoma cells, Result: negative, OECD Test Guideline 476, GLP: yes, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	Genotoxicity in vivo, rat, intraperitoneally, OECD Test Guideline 478, Result: negative
	:	Genotoxicity in vivo, mouse, intraperitoneally, OECD Test Guideline 478, Result: negative
	:	Genotoxicity in vivo, mouse, Inhalation, OECD Test Guideline 478, Result: negative
	:	Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis), rat, intraperitoneally, OECD Test Guideline 475, GLP: yes, Based on available data, the classification criteria are not met.
Carcinogenicity	:	mouse, Skin contact, OECD Test Guideline 451, GLP: yes, Based on available data, the classification criteria are not met.
Reproductive toxicity	:	One-generation reproduction toxicity test, rat, Oral
	:	Screening for reproductive/developmental toxicity, rat, Skin

		contact, NOAEL: > 494 mg/kg, OECD Test Guideline 421, Based on available data, the classification criteria are not met.
Teratogenicity	:	rat, Inhalation, OECD Test Guideline 414
	:	rat, Oral, OECD Test Guideline 414, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Assessment: May cause drowsiness or dizziness.
STOT - repeated exposure	:	rat, Oral, Exposure time: <= 90 d, Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat / mouse, Inhalation, Exposure time: 90 d, OECD Test Guideline 413, Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Dermal, Exposure time: 28 d, OECD Test Guideline 410, GLP: yes, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	May be fatal if swallowed and enters airways.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

2-(2-Butoxyethoxy) ethanol :

Acute oral toxicity	:	LD50: 2.410 mg/kg, mouse(male), OECD Test Guideline 401, GLP: no, Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	LC50: > 0,35 mg/l, 4 h, rat, vapour, Expert judgement, > Saturated vapour concentration
	:	LC0: 0,35 mg/l, 14 d, rat, vapour, OECD Test Guideline 412, GLP: yes, > Saturated vapour concentration
	:	LC50: > 29 ppm, 2 h, rat, vapour, OECD Test Guideline 403, GLP: no, Based on available data, the classification criteria are not met.
Acute dermal toxicity	:	LD50: 2.764 mg/kg, rabbit, OECD Test Guideline 402, GLP: no, Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	rabbit, Result: slight irritation, OECD Test Guideline 404, 1 h, GLP: no, Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	rabbit, Result: Moderate eye irritation, OECD Test Guideline 405, GLP: no
Respiratory or skin sensitisation	:	Skin sensitisation

	:	Maximisation Test, guinea pig, Result: not sensitising, OECD Test Guideline 406, Based on available data, the classification criteria are not met.
	:	Respiratory sensitisation, Not classified due to lack of data.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Mutagenicity (Salmonella typhimurium - reverse mutation assay), Bacteria, Result: negative, OECD Test Guideline 471
	:	In vitro gene mutation study in mammalian cells, CHO, Result: negative, OECD Test Guideline 476, GLP: yes
	:	Mutagenicity (in vitro mammalian cytogenetic test), CHO, Result: negative, OECD Test Guideline 473, Based on available data, the classification criteria are not met.
Genotoxicity in vivo	:	Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis), mouse, Oral, Single dose, OECD Test Guideline 475, Result: negative, Based on available data, the classification criteria are not met.
Carcinogenicity	:	Not classified due to lack of data.
Reproductive toxicity	:	One-generation reproduction toxicity test, rat, Skin contact, OECD Test Guideline 415
	:	One-generation reproduction toxicity test, rat, Oral, OECD Test Guideline 415, Based on available data, the classification criteria are not met.
Teratogenicity	:	rabbit, Skin contact, OECD Test Guideline 414
	:	rat, Oral, OECD Test Guideline 414, Based on available data, the classification criteria are not met.
STOT - single exposure	:	Remarks: Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Oral, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Dermal, standardised international/national methodology, Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	rat, Inhalation, standardised international/national methodology, GLP: yes, Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Not classified due to lack of data.
Further information	:	CMR effects, Carcinogenicity, Mutagenicity, Reproductive toxicity, Hazard assessment, Category 1A, Category 1B, Based on available data, the classification criteria are not met.
	:	Likely route of exposure, Inhalation, Ingestion, Skin contact

4 - (α, α-dimethylbenzyl) phenol :

Acute oral toxicity	:	LD50: 1.770 mg/kg, rat

11.2 Carcinogenicity

Contains no known or suspected carcinogens listed by IARC, NTP or OSHA at or above reportable quantities.

12. Ecological information

12.1 Toxicity

Components:

Phenol :

Toxicity to fish	:	NOEC: 4 mg/l, 14 d, Poecilia reticulata (guppy), semi-static test, OECD Test Guideline 204, GLP: yes
	:	LC50: 8,9 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout), flow-through test, standardised international/national methodology
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 3,1 mg/l, 48 h, Ceriodaphnia dubia (water flea), static test, standardised international/national methodology, GLP: no
Toxicity to algae	:	EC50: 61,1 mg/l, 96 h, Pseudokirchneriella subcapitata (green algae), static test, standardised international/national methodology
	:	EC50: 157 mg phenol/L, 7 d, Lemna minor (duckweed), static test, standardised international/national methodology, GLP: no
	:	EC50: 61,82 mg/L, 7 d, Lemna minor (duckweed), Growth inhibition, standardised international/national methodology, GLP: yes
Toxicity to bacteria	:	IC50: 21 mg/l, 24 h, Bacteria, GLP: no
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,077 mg/l, 60 d, Cirrhina mrigala, semi-static test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,16 mg/l, 16 d, Daphnia magna (Water flea), semi-static test, standardised international/national methodology

Barium Compounds :

Toxicity to fish	:	Read-across (Analogy)
	:	LC50: > 97.5 mg Ba/L, 96 h, Danio rerio (zebra fish), static test, OECD Test Guideline 203, GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	Read-across (Analogy)
	:	LC50: 14,5 mg Ba/L, 48 h, Daphnia magna (Water flea), static

test

Toxicity to algae :

Read-across (Analogy)
: NOEC: >= 34,31 mg Ba/L, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes

: EC50: > 34,31 mg Ba/L, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes

Toxicity to bacteria :

Read-across (Analogy)
: NOEC: >= 500,61 mg Ba/L, 3 h, activated sludge, static test, OECD Test Guideline 209, GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) :

Read-across (Analogy)

EC16: 5,8 mg Ba/l, 21 d, Daphnia magna (Water flea), semi-static test

Ecotoxicology Assessment

Acute aquatic toxicity : Based on available data, the classification criteria are not met.

Chronic aquatic toxicity : Based on available data, the classification criteria are not met.

Barium Compounds :

Ecotoxicology Assessment

Acute aquatic toxicity : Based on available data, the classification criteria are not met.

Chronic aquatic toxicity : Read-across (Analogy), Toxic to aquatic life with long lasting effects.

Barium Compounds :

Toxicity to fish :

Read-across (Analogy)
: EC50: > 97.5 mg Ba/L, 96 h, Danio rerio (zebra fish), static test, OECD Test Guideline 203, GLP: yes

Toxicity to daphnia and other aquatic invertebrates :

Read-across (Analogy)
: LC50: 14.5 mg Ba/L, 96 h, Daphnia magna (Water flea), static test, standardised international/national methodology

Toxicity to algae :

Read-across (Analogy)
: EC50: > 34,3 mg Ba/L, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes

Toxicity to bacteria	:	Read-across (Analogy) : EC50: > 500 mg Ba/L, 3 h, activated sludge, Respiration inhibition, OECD Test Guideline 209, GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Barium Compounds :

Toxicity to fish	:	Read-across (Analogy) : LC50: > 97.5 mg Ba/L, 96 h, Danio rerio (zebra fish), static test, OECD Test Guideline 203, GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	Read-across (Analogy) : LC50: 14,5 mg Ba/L, 48 h, Daphnia magna (Water flea), static test
Toxicity to algae	:	Read-across (Analogy) : NOEC: >= 34,31 mg Ba/L, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes : EC50: > 34,31 mg Ba/L, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes
Toxicity to bacteria	:	Read-across (Analogy) : NOEC: >= 500,61 mg Ba/L, 3 h, activated sludge, Respiration inhibition, OECD Test Guideline 209, GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Read-across (Analogy) EC16: 5,8 mg/l, 21 d, Daphnia magna (Water flea), semi-static test, OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Zinc Compounds :

Toxicity to fish	:	LC50: 10 - 100 mg/l, 96 h, Danio rerio (zebra fish), OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50: 1 - 10 mg/l, 48 h, Daphnia magna (Water flea), OECD Test Guideline 202
Toxicity to algae	:	EC50: 1 - 10 mg/l, 72 h, Desmodesmus subspicatus (green algae), OECD Test Guideline 201
	:	NOEC: < 1,0 mg/l, 72 h, Desmodesmus subspicatus (green algae), OECD Test Guideline 201

Diisodecyl phenyl phosphite :

Toxicity to fish	:	> 100 mg/l, 48 h, Leuciscus idus (Golden orfe), static test, OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 0,2 mg/l, 48 h, Daphnia magna (Water flea), static test, OECD Test Guideline 202, GLP: yes
Toxicity to algae	:	EC50: 45 mg/l, 72 h, Desmodesmus subspicatus (green algae), static test, OECD Test Guideline 201, GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite :

Toxicity to fish	:	study technically not feasible
Toxicity to daphnia and other aquatic invertebrates	:	study technically not feasible
Toxicity to algae	:	study technically not feasible
Toxicity to bacteria	:	study technically not feasible

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Triisodecyl phosphite :

Toxicity to fish	:	study technically not feasible
Toxicity to daphnia and other aquatic invertebrates	:	study technically not feasible
Toxicity to algae	:	study technically not feasible
Toxicity to bacteria	:	study technically not feasible
Toxicity to fish (Chronic toxicity)	:	study technically not feasible
Toxicity to daphnia and other	:	

aquatic invertebrates (Chronic toxicity)		study technically not feasible

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Distillates (petroleum), hydrotreated light :

Toxicity to fish	:	LL50: 2,5 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout), semi-static test, OECD Test Guideline 203, GLP: yes, Value refered to the Water accumulated fraction (WAF).
Toxicity to daphnia and other aquatic invertebrates	:	EL50: 1,4 mg/l, 48 h, Daphnia magna (Water flea), static test, OECD Test Guideline 202, GLP: yes, Value refered to the Water accumulated fraction (WAF).
Toxicity to algae	:	EL50: 1,3 mg/l, 72 h, Pseudokirchneriella subcapitata (green algae), static test, OECD Test Guideline 201, GLP: yes, Value refered to the Water accumulated fraction (WAF).
Toxicity to bacteria	:	LL50: 677,9 mg/l, 72 h, Tetrahymena pyriformis, QSAR, GLP: no
Toxicity to fish (Chronic toxicity)	:	NOEL: 0,098 mg/l, 28 d, Oncorhynchus mykiss (rainbow trout), QSAR, GLP: no
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEL: 0,48 mg/l, 21 d, Daphnia magna (Water flea), semi-static test, OECD Test Guideline 211, GLP: yes, Value refered to the Water accumulated fraction (WAF).

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects.

2-(2-Butoxyethoxy) ethanol :

Toxicity to fish	:	LC50: 1.300 mg/l, 96 h, Lepomis macrochirus (Bluegill sunfish), static test, OECD Test Guideline 203, GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	NOEC: >= 100 mg/l, 48 h, Daphnia magna (Water flea), static test, OECD Test Guideline 202, GLP: yes
Toxicity to algae	:	NOEC: > 100 mg/l, 96 h, Desmodesmus subspicatus (green algae), static test, OECD Test Guideline 201, GLP: yes
Toxicity to bacteria	:	EC10: > 1.995 mg/l, 0,5 h, activated sludge, Respiration inhibition, OECD Test Guideline 209, GLP: no

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Phenol, 2 - (1-Methyl-1-phenylethyl) -4 - (1,1,3,3-Tetramethyl-butyl) - :

Toxicity to fish : LC50: 1 mg/l, 96 h, Oncorhynchus mykiss (rainbow trout)

4 - (α, α-dimethylbenzyl) phenol :

Toxicity to bacteria : EC50: 1,4 mg/l, 72 h

12.2 Persistence and degradability

Components:

Phenol :

Biodegradability : Ready biodegradability, Result: Readily biodegradable., Exposure time: 10 d, activated sludge, OECD Test Guideline 301

: aerobic, Result: Biodegradable, Exposure time: 20 d, Marine water

: anaerobic, Result: Biodegradable, Exposure time: 50 d, activated sludge, standardised international/national methodology

: aerobic, Result: Readily biodegradable., Exposure time: 3 d, Estuary sediment, standardised international/national methodology

: anaerobic, Result: Biodegradable, Exposure time: 42 d, activated sludge, standardised international/national methodology

: aerobic, Result: Biodegradable, Exposure time: 70 d, Soil

Barium Compounds :

Biodegradability : The methods for determining biodegradability are not applicable to inorganic substances.

Barium Compounds :

Biodegradability : no data available

Barium Compounds :

Biodegradability : The organic components of the product are biodegradable.

: The methods for determining biodegradability are not applicable to inorganic substances.

Barium Compounds :

Biodegradability : The organic components of the product are biodegradable.

:

The methods for determining biodegradability are not applicable to inorganic substances.

Zinc Compounds :

Biodegradability : Read-across (Analogy)
: Readily biodegradable.

Diisodecyl phenyl phosphite :

Biodegradability : aerobic, 10 %, Result: Inherently biodegradable., Exposure time: 28 d, activated sludge, OECD Test Guideline 301 B, GLP: yes

Isodecyl diphenyl phosphite :

Biodegradability : aerobic, 0,14 %, Exposure time: 28 d, activated sludge, OECD Test Guideline 301D,
Not readily biodegradable.

Triisodecyl phosphite :

Biodegradability : aerobic, 0,47 %, Result: Not readily biodegradable., Exposure time: 28 d, activated sludge, OECD Test Guideline 301D

Distillates (petroleum), hydrotreated light :

Biodegradability : aerobic, 61 %, Result: Readily biodegradable., Exposure time: 28 d, activated sludge, OECD Test Guideline 301 F, GLP: yes

2-(2-Butoxyethoxy) ethanol :

Biodegradability : aerobic, Result: Readily biodegradable., Exposure time: 28 d, activated sludge, OECD Test Guideline 301, GLP: no

12.3 Bioaccumulative potential

Components:

Phenol :

Bioaccumulation : Brachydanio rerio, Exposure time: 5 h, 25 °C, Bioconcentration factor (BCF): 17,5, standardised international/national methodology,
Bioaccumulation is unlikely.

Barium Compounds :

Bioaccumulation : Bioaccumulation is unlikely.

Barium Compounds :

Bioaccumulation : no data available

Barium Compounds :

Bioaccumulation : Read-across (Analogy)
: This substance is not considered to be bioaccumulating.

Barium Compounds :

Bioaccumulation : Read-across (Analogy)

: Bioconcentration factor (BCF): 6,4 - 74,4,
Barium

Zinc Compounds :
Bioaccumulation :
not applicable

Diisodecyl phenyl phosphite :
Bioaccumulation : Bioconcentration factor (BCF): 33,27 - 606,5, QSAR

Isodecyl diphenyl phosphite :
Bioaccumulation : Bioconcentration factor (BCF): 606,5, QSAR

Triisodecyl phosphite :
Bioaccumulation :
study scientifically unjustified

Distillates (petroleum), hydrotreated light :
Bioaccumulation :
no data available

2-(2-Butoxyethoxy) ethanol :
Bioaccumulation :
Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:
Phenol :
Mobility : Predicted distribution to environmental compartments, Water

Barium Compounds :
Mobility : QSAR, not applicable

Barium Compounds :
Mobility : not applicable

Barium Compounds :
Mobility : no data available

Zinc Compounds :
Mobility : According to experience not expected

Diisodecyl phenyl phosphite :
Mobility : QSAR, Predicted distribution to environmental compartments, Sediment, Soil

Isodecyl diphenyl phosphite :
Mobility : QSAR, Predicted distribution to environmental compartments, Sediment, Soil

Triisodecyl phosphite :
Mobility : QSAR, Predicted distribution to environmental compartments, Soil, Sediment

Distillates (petroleum), hydrotreated light :
Mobility : QSAR, Predicted distribution to environmental compartments, Air

2-(2-Butoxyethoxy) ethanol :
Mobility : QSAR, Predicted distribution to environmental compartments, Water

12.5 Results of PBT and vPvB assessment

Components:
Phenol :

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

Barium Compounds :
Assessment : Based on available data, the classification criteria are not met.

Barium Compounds :
Assessment : Based on available data, the classification criteria are not met.

Barium Compounds :
Assessment : Based on available data, the classification criteria are not met.

Barium Compounds :
Assessment : Based on available data, the classification criteria are not met.

Zinc Compounds :
Assessment : Based on available data, the classification criteria are not met.

Diisodecyl phenyl phosphite :
Assessment : Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite :
Assessment : Based on available data, the classification criteria are not met.

Triisodecyl phosphite :
Assessment : Based on available data, the classification criteria are not met.

Distillates (petroleum), hydrotreated light :
Assessment : Based on available data, the classification criteria are not met.

2-(2-Butoxyethoxy) ethanol :
Assessment : Based on available data, the classification criteria are not met.

12.6 Other adverse effects

Phenol :
Further information : No information available.

Barium Compounds :
Further information : No information available.

Barium Compounds :
Further information : No information available.

Barium Compounds :
Further information : No information available.

Barium Compounds :
Further information : No information available.

Zinc Compounds :
Further information : No information available.

Diisodecyl phenyl phosphite :
Further information : No information available.

Isodecyl diphenyl phosphite :
Further information : No information available.

Triisodecyl phosphite :
Further information : No information available.

Distillates (petroleum), hydrotreated light :

Further information : No information available.

2-(2-Butoxyethoxy) ethanol :
Further information : No information available.

13. Disposal considerations

13.1 Waste treatment methods

Product : Dispose of contents/container in accordance with local/regional/national/international/regulations.

14. Transport information

14.1 UN number
DOT
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.2 Proper shipping name
DOT
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.3 Transport hazard class
DOT
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.4 Packing group
DOT
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.5 Environmental hazards
DOT

Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.6 Special precautions for user
See this safety data sheet chapter 6. - 8.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Remarks : No transport according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

Section 313 Supplier Notification (USA)

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Component	CAS/313 Category Code	Wt (%)
Barium compounds	N040	15.0
Zinc compounds	N982	11.7
Phenol	108-95-2	1.3

National Legislation:

Registration Status:

EINECS	:	Not listed
TSCA	:	listed
DSL	:	Not listed
AICS	:	Not listed
ENCS	:	Not listed
ECL	:	Not listed
PICCS	:	Not listed
CHINA	:	Not listed

16. Other information

Date of Preparation or last change: 09.06.2015

HMIS Rating (USA)

Health	:	2
Flammability	:	1
Reactivity	:	1
Personal Protection	:	G

HTS #	:	3812.30.9000

Full text of R-phrases

R20/22	Harmful by inhalation and if swallowed.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R48/23/24/25	Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51	Toxic to aquatic organisms.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R60	May impair fertility.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R68	Possible risk of irreversible effects.

Full text of H-Statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic 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.
H360F	May damage fertility.
H361d	Suspected of damaging the unborn child.
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.
H413	May cause long lasting harmful effects to aquatic life.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.