

LA-CO Industries, Inc.

Tempilaq® Temperature Indicating Liquid : 175 °F (79 °C), 188 °F, 200 °F (93 °C), 250 °F (121 °C), 275 °F (135 °C), 300 °F (149 °C), 313 °F (156 °C), 325 °F (163 °C), 350 °F (177 °C), 363 °F (184 °C), 375 °F (191 °C), 550 °F (288 °C), 575 °F (302 °C), 600 °F (316 °C), 700 °F (371 °C), 750 °F (399 °C), 850 °F (454 °C), 900 °F (482 °C), 1022 °F (550 °C), 1050 °F (566 °C), 1100 °F (593 °C), 1150 °F (621 °C), 1200 °F (649 °C), 1250 °F (677 °C), 1300 °F (704 °C), 1400 °F (760 °C), 1500 °F (816 °C), 1600 °F (871 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C)

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 23/03/2015

Revision date: 23/10/2015

Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Product name : Tempilaq® Temperature Indicating Liquid 175 °F (79 °C), 188 °F, 200 °F (93 °C), 250 °F (121 °C), 275 °F (135 °C), 300 °F (149 °C), 313 °F (156 °C), 325 °F (163 °C), 350 °F (177 °C), 363 °F (184 °C), 375 °F (191 °C), 550 °F (288 °C), 575 °F (302 °C), 600 °F (316 °C), 700 °F (371 °C), 750 °F (399 °C), 850 °F (454 °C), 900 °F (482 °C), 1022 °F (550 °C), 1050 °F (566 °C), 1100 °F (593 °C), 1150 °F (621 °C), 1200 °F (649 °C), 1250 °F (677 °C), 1300 °F (704 °C), 1400 °F (760 °C), 1500 °F (816 °C), 1600 °F (871 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C)

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use
Use of the substance/mixture : Temperature indicator

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LA-CO Industries Europe S.A.S.
Parc Industriel de la Plaine de
l'Ain - Allée des Combes.
01150.BLYES.France.
Phone: +33 (0)4 74 46 23 23
Fax: +33 (0)4 74 46 23 29
E-mail: info@eu.laco.com
Web: http://www.markal.com



1.4. Emergency telephone number

Emergency number : 24-hour emergency: CHEMTREC- U.S. : 1-800-424-9300 International: +1-703-527-3887

EU Member State	Officieel adviesorgaan	Adres	Noodnummer
AUSTRIA	Vergiftungsinformationszentrale (Poisons Information Centre)	Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien	+43 1 406 43 43
BELARUS	The Belarus Republican Poisons Centre	Kizhevatova str. 58 Minsk 220115	+375 (0)17 201 9158
BELGIUM	Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid	Rue Bruyn 1 B -1120 Bruxelles/Brussel	+32 70 245 245
BULGARIA	Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov"	21 Totleben Boulevard 1606 SOFIA	+359 2 9154 409
CROATIA	Poisons Control Centre Institute of Medical Research & Occupational Health	Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb	+385 1 234 8342
CZECH REPUBLIC	Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University	Na Bojišti 1 120 00 Praha 2	+42 2 2491 9293 +42 2 2491 5402
DENMARK	Giftilinjen Bispebjerg Hospital	Bispebjerg Bakke 23, 60, 1 DK-2400 København NV	+45 82 12 12 12 +45 35 31 55 55
ESTONIA	Mürgistusteabekeskus	Gonsiori 29 15027 Tallinn	+372 626 93 90
FINLAND	Myrkytystietokeskus	P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki	+358 9 471 977
FRANCE	ORFILA		+33 1 45 42 59 59

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

GERMANY	Berliner Betrieb für Zentrale Gesundheitliche Aufgaben	Oranienburger Strasse 285 13437 Berlin	+49 30 19240
GERMANY	Informations und Beratungszentrum für Vergiftungsfälle	Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar	+49 6841 19240
GERMANY	Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen	Langenbeckstrasse 1 55131 Mainz	+49 6131 19240
GREECE	Poisons Information Centre	11527 Athens	+30 10 779 3777
HUNGARY	Országos Kémiai Biztonsági Intézet (National Institute of Chemical Safety) Egészségügyi Toxikológiai Tájékoztató Szolgálat (Health Toxicological Information Service)	1437 Budapest PO Box 839 1097 Budapest, Nagyvárad tér 2	+36 80 20 11 99
ICELAND	Eitrunarmiðstöðin	Eitrunarmiðstöðin 108 Reykjavik	+354 543 22 22
IRELAND	National Poisons Information Centre	Beaumont Hospital PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2166
LATVIA	Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs	2 Hipocrate Street LV 1038 Riga	+371 67 04 24 73
LITHUANIA	Apsinuodijimų kontrolės ir informacijos biuras	Siltnamiu 29 2043 Vilnius	+370 5 236 20 52/+370 687 53 378
MALTA	Medicines & Poisons Info Office	Mater Dei Hospital, Msida MSD 2090 Malta	25450000
NETHERLANDS	Nationaal Vergiftigingen Informatie Centrum National Institute for Public Health and the Environment, NB this service is only available to health professionals	Huispostnummer B.00.118, PO Box 85500 3508 GA Utrecht	+31 30 274 88 88
PORTUGAL	Centro de Informação Antivenenos Instituto Nacional de Emergência Médica (INEM)	Rua Almirante Barroso, 36 1000-013 Lisboa	808 250 143 (for use only in Portugal), +351 21 330 3284
ROMANIA	Biroul pentru Regulamentul Sanitar International si Informare Toxicologica	Str. Dr. Leonte Anastasievici Nr.1-3, Sector 5 50463 Bucuresti	+40 21 318 36 06
SLOVAKIA	Národné toxikologické informačné centrum University Hospital Bratislava	Limbová 5 833 05 Bratislava	+421 2 54 77 4 166
SPAIN	Servicio de Información Toxicológica Instituto Nacional de Toxicología, Departamento de Madrid	Calle Luis Cabrera 9 E-28002 Madrid	+34 91 562 04 20
SWEDEN	Giftinformationscentralen Swedish Poisons Information Centre, Karolinska Hospital	Box 60 500 SE-171 76 Stockholm	+46 8 33 12 31 (International) 112 (National)
SWITZERLAND	Centre Suisse d'Information Toxicologique	Freiestrasse 16 Postfach CH-8028 Zurich	+41 44 251 51 51 (International) 145 (National)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Carc. 2 H351

Repr. 1B H360

STOT SE 3 H335

STOT SE 3 H336

STOT RE 2 H373

Full text of H-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Danger

Hazardous ingredients :

acetoacetanilide, butyl 4-hydroxybenzoate, 1,2-epoxybutane, 1-bromopropane, Toluene, hymecromone, potassium molybdate, Molybdenum trioxide, dilithium molybdate, C.I. Solvent Yellow 42, Isopropanol

Hazard statements (CLP) :

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (CLP) :

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist, vapours
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective gloves, protective clothing
P302+P352 - IF ON SKIN: Wash with plenty of water
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see First aid measures on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to an authorised waste collection point

Unknown acute toxicity (CLP: Classification, Labelling, Packaging.) - SDS : 25.1% of the mixture consists of ingredient(s) of unknown acute oral toxicity
25.1% of the mixture consists of ingredient(s) of unknown acute dermal toxicity
25.1% percent of the mixture consists of ingredient(s) of unknown acute inhalation (dust/mist) toxicity

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Comments :

Only component with health hazards above the applicable thresholds and/or Exposure Limit values are shown.

Exact concentrations are withheld as trade secret.

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-bromopropane substance listed as REACH Candidate (1-bromopropane (n-propyl bromide))	(CAS No) 106-94-5 (EC no) 203-445-0 (EC index no) 602-019-00-5	60 – 90	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360FD STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373
dilithium molybdate	(CAS No) 13568-40-6 (EC no) 236-977-7	0 – 35	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
acetoacetanilide	(CAS No) 102-01-2 (EC no) 202-996-4	0 – 30	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 STOT RE 2, H373
adipic acid	(CAS No) 124-04-9 (EC no) 204-673-3 (EC index no) 607-144-00-9	0 – 30	Eye Irrit. 2, H319
hymecromone	(CAS No) 90-33-5 (EC no) 201-986-7	0 – 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
salicylamide	(CAS No) 65-45-2 (EC no) 200-609-3	0 – 25	Acute Tox. 4 (Oral), H302
2'-methylacetanilide	(CAS No) 120-66-1 (EC no) 204-414-4	0 – 25	Acute Tox. 4 (Oral), H302
2',4'-dimethylacetoacetanilide	(CAS No) 97-36-9 (EC no) 202-576-0	0 – 25	Acute Tox. 4 (Oral), H302
disodium wolframate	(CAS No) 13472-45-2 (EC no) 236-743-4	0 – 25	Acute Tox. 4 (Oral), H302
Fluorescein	(CAS No) 2321-07-5 (EC no) 219-031-8	0 – 20	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
potassium sulfate	(CAS No) 7778-80-5 (EC no) 231-915-5	0 – 20	Not classified
calcium sulfate	(CAS No) 7778-18-9 (EC no) 231-900-3	0 – 15	Not classified
Molybdenum trioxide	(CAS No) 1313-27-5 (EC no) 215-204-7 (EC index no) 042-001-00-9	0 – 15	Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335
potassium molybdate	(CAS No) 13446-49-6 (EC no) 236-599-2	0 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
barium sulfate	(CAS No) 7727-43-7 (EC no) 231-784-4	0 – 10	Not classified
Toluene	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3	0.1 – 3	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336
Isopropanol	(CAS No) 67-63-0 (EC no) 200-661-7 (EC index no) 603-117-00-0	0 – 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
lithium carbonate	(CAS No) 554-13-2 (EC no) 209-062-5	0 – 2	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
1,2-epoxybutane	(CAS No) 106-88-7 (EC no) 203-438-2 (EC index no) 603-102-00-9	0 – 1	Flam. Liq. 2, H225 Carc. 2, H351 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Aquatic Chronic 3, H412
nitromethane	(CAS No) 75-52-5 (EC no) 200-876-6 (EC index no) 609-036-00-7	0 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302
Iron oxide red	(CAS No) 1309-37-1 (EC no) 215-168-2	0 – 1	Aquatic Chronic 2, H411

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Xylene	(CAS No) 1330-20-7 (EC no) 215-535-7 (EC index no) 601-022-00-9	0 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315
Colloidal Silicon dioxide	(CAS No) 112945-52-5 (EC no) 231-545-4	0 – 1	Not classified
ethylbenzene	(CAS No) 100-41-4 (EC no) 202-849-4 (EC index no) 601-023-00-4	0 – 1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304
manganese dioxide	(CAS No) 1313-13-9 (EC no) 215-202-6 (EC index no) 025-001-00-3	0 – 0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332
Aluminum oxide	(CAS No) 1344-28-1 (EC no) 215-691-6	0 – 0.1	Not classified
Polyethylene Glycol	(CAS No) 25322-68-3 (EC no) 500-038-2	< 0.1	Not classified
Silicon dioxide (cristobalite)	(CAS No) 14808-60-7 (EC no) 238-878-4	0 – 0.09	Carc. 1A, H350i
Carbon black	(CAS No) 1333-86-4 (EC no) 215-609-9	0 – 0.09	Carc. 2, H351

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Drink plenty of water. Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

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

Symptoms/injuries	: May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.
Symptoms/injuries after inhalation	: May cause respiratory irritation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

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

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide. Dry powder. Foam. Sand. Water fog.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Burning produces irritating, toxic and noxious fumes.
Explosion hazard	: Product is not explosive.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus. EN469.

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment : Chemical goggles or safety glasses. Wear suitable protective clothing and gloves.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Chemical goggles or safety glasses. Wear suitable protective clothing and gloves.

Emergency procedures : Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material, then place in suitable container. Do not allow minor leaks or spills to accumulate on walking surfaces.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist, vapours. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Keep only in the original container in a cool well ventilated place.

Incompatible products : Strong acids. Strong bases.

Incompatible materials : Heat sources. Direct sunlight.

Prohibitions on mixed storage : Incompatible materials.

7.3. Specific end use(s)

Temperature indicator.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Polyethylene Glycol (25322-68-3)		
Austria	MAK (mg/m ³)	1000 mg/m ³ (einatebare Fraktion)
Austria	MAK Short time value (mg/m ³)	4000 mg/m ³ max. 4x15 min./Schicht (einatebare Fraktion)
Denmark	Grænseværdie (langvarig) (mg/m ³)	1000 mg/m ³
Denmark	Grænseværdie (kortvarig) (mg/m ³)	2000 mg/m ³
Denmark	Anmærkninger (DK)	(Polyethylenglycol (PEG) med middelmolvægt på 200-600)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	1000 mg/m ³
Germany	TRGS 900 Limitation of exposure peaks (mg/m ³)	8000 mg/m ³
Germany	Remark (TRGS 900)	(einatebare Fraktion)
Slovakia	NPHV (priemerná) (mg/m ³)	1000 mg/m ³
Slovakia	Upozornenie (SK)	krátkodobý: kategória II.
Switzerland	VME (ppm)	1000 ppm

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Polyethylene Glycol (25322-68-3)		
Switzerland	Remark (CH)	(mittlere Molmasse 200–600)
1-bromopropane (106-94-5)		
Spain	VLA-ED (ppm)	10 ppm
Spain	Notes	TR1B
nitromethane (75-52-5)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	100 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	40 ppm
Toluene (108-88-3)		
EU	IOELV TWA (mg/m ³)	192 mg/m ³
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m ³)	384 mg/m ³
EU	IOELV STEL (ppm)	100 ppm
EU	Notes	Skin
Denmark	Grænseværdie (kortvarig) (mg/m ³)	188 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	50 ppm
France	Note (FR)	Peau
Germany	TRGS 903 (BGW)	3 mg/l o-Kresol (Urin; bei Langzeitexposition/Expositionsende bzw. Schichtende) 1 mg/l Toluol (Blut; Expositionsende bzw. Schichtende)
Slovakia	NPHV (priemerná) (mg/m ³)	192 mg/m ³ (K)
Slovakia	NPHV (priemerná) (ppm)	50 ppm (K) 600 ppm (Toluén) 1.5 ppm (O-krezol) 2401 ppm (Kyselina hippurová)
Sweden	Anmärkning (SE)	(B,H)
adipic acid (124-04-9)		
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Poland	Remark (PL)	pyly
Spain	VLA-ED (mg/m ³)	5 mg/m ³
Carbon black (1333-86-4)		
Belgium	Limit value (mg/m ³)	3.5 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	3.5 mg/m ³
Denmark	Anmærkninger (DK)	K
Finland	HTP-arvo (8h) (mg/m ³)	3.5 mg/m ³
Finland	HTP-arvo (15 min)	7 mg/m ³
France	VME (mg/m ³)	3.5 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	3.5 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	7 mg/m ³
Spain	VLA-ED (mg/m ³)	3.5 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	3 mg/m ³
United Kingdom	Local name	Carbon black
United Kingdom	WEL TWA (mg/m ³)	3.5 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	7 mg/m ³
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	3.5 mg/m ³
Iron oxide red (1309-37-1)		
Belgium	Remark (BE)	(trioxyde de; fumées, en Fe)

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Iron oxide red (1309-37-1)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	7 mg/m ³
Denmark	Anmærkninger (DK)	(Jernoxid, total dust)
Finland	Huomautus (FI)	(Fe)
Hungary	Megjegyzések (HU)	(respirabilis por)
Ireland	OEL (8 hours ref) (mg/m ³)	5 mg/m ³ (Iron oxide, fume as Fe) 10 mg/m ³ (Rouge total inhalable dust) 4 mg/m ³ (Rouge total respirable dust)
Ireland	OEL (15 min ref) (mg/m ³)	10 mg/m ³ (Iron oxide, fume as Fe)
Lithuania	Remark (LT)	(Piūrėk IX skyriaus 3 pastabà.)
Poland	Remark (PL)	(dymy)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovate¾ná frakcia)
Spain	Notes	(Óxido de hierro(III) (polvo y humos), como Fe)
Sweden	Anmärkning (SE)	(Järnoxid, respirabelt damm)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ (Rouge, inhalable fraction) 4 mg/m ³ (Rouge, respirable fraction) 5 mg/m ³ (fume, as Fe)
United Kingdom	WEL STEL (mg/m ³)	10 mg/m ³ (fume, as Fe)
Norway	Merknader (NO)	(Jern(III)oksid, beregnet som Fe)
Switzerland	Remark (CH)	(alveolengängiger Staub)
Aluminum oxide (1344-28-1)		
Austria	MAK (mg/m ³)	10 mg/m ³ (gemessen als einatembarer Aerosolanteil) 5 mg/m ³ (alveolengängiger Anteil)
Austria	MAK Short time value (mg/m ³)	20 mg/m ³ (gemessen als einatembarer Aerosolanteil) max. 2x60 min./Schicht 10 mg/m ³ (alveolengängiger Anteil) max. 2x60 min./Schicht
Belgium	Limit value (mg/m ³)	10 mg/m ³
Belgium	Remark (BE)	(oxyde d') (en Al)
Denmark	Grænseværdie (langvarig) (mg/m ³)	5 mg/m ³ (total) 2 mg/m ³ (respirabel)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	10 mg/m ³ (total) 4 mg/m ³ (respirabel)
France	VME (mg/m ³)	10 mg/m ³
France	Note (FR)	(respirable aerosol)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	3 mg/m ³
Germany	Remark (TRGS 900)	(gemessen als alveolengängiger Staubanteil)
Hungary	AK-érték	6 mg/m ³
Hungary	Megjegyzések (HU)	(respirable aerosol)
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³ (total inhalable dust) 4 mg/m ³ (respirable dust)
Lithuania	IPRV (mg/m ³)	2 mg/m ³
Lithuania	Remark (LT)	(alveolinė frakcija. Piūrėk IX skyriaus 3 pastabà.)
Poland	NDS (mg/m ³)	2.5 mg/m ³ (dymy, pyl calkowity) 1.2 mg/m ³ (dymy, pyl respirabilny)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovate¾ná frakcia)
Spain	VLA-ED (mg/m ³)	10 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³ (inhalable aerosol) 2 mg/m ³ (respirable aerosol)

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Aluminum oxide (1344-28-1)		
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ (inhalable aerosol) 4 mg/m ³ (respirable aerosol)
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	10 mg/m ³
Norway	Merknader (NO)	1)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(respirable aerosol)
manganese dioxide (1313-13-9)		
Finland	HTP-arvo (8h) (mg/m ³)	0.2 mg/m ³
Silicon dioxide (cristobalite) (14808-60-7)		
Austria	Remark (AT)	(alveolengängige Fraktion; Jahres-Miw)
Belgium	Remark (BE)	(poussières alvéolaires)
Denmark	Grænseværdie (langvarig) (mg/m ³)	0.3 mg/m ³ (inhalable aerosol) 0.1 mg/m ³ (K, respirable aerosol)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	0.6 mg/m ³ (inhalable aerosol) 0.2 mg/m ³ (K, respirable aerosol)
Finland	Huomautus (FI)	(alveolijae)
France	Note (FR)	(poussières alvéolaires de quartz)
Hungary	AK-érték	0.15 mg/m ³
Hungary	Megjegyzések (HU)	(respirable aerosol)
Lithuania	Remark (LT)	(Piūrėk IX skyriaus 3 pastabà)
Netherlands	Remark (MAC)	(Voor respirabel stof) (kankerverwekkende stoff)
Poland	NDS (mg/m ³)	2 mg/m ³ (krzemionke powyzej 50%; pyl calkowity) 0.3 mg/m ³ (krzemionke powyzej 50%; pyl respirabilny) 2 mg/m ³ (krzemionke od 2% do 50%; pyl calkowity) 0.3 mg/m ³ (krzemionke od 2% do 50%; pyl respirabilny)
Slovakia	NPHV (priemernà) (mg/m ³)	0.1 mg/m ³
Slovakia	Upozornenie (SK)	(Dokázaný karcinogén pre ľudí, R)
Spain	VLA-ED (mg/m ³)	0.1 mg/m ³
Spain	Notes	(respirable aerosol)
Sweden	Anmärkning (SE)	(respirabelt damm; M, 1)
Switzerland	Remark (CH)	(respirable aerosol)
Molybdenum trioxide (1313-27-5)		
Finland	Huomautus (FI)	Mo
Colloidal Silicon dioxide (112945-52-5)		
Austria	MAK (mg/m ³)	4 mg/m ³
Austria	Remark (AT)	(einatembare Fraktion)
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	4 mg/m ³
Germany	Remark (TRGS 900)	(einatembare Fraktion)
Ireland	OEL (8 hours ref) (mg/m ³)	2.4 mg/m ³ 6 mg/m ³ (total inhalable dust)
Spain	VLA-ED (mg/m ³)	10 mg/m ³
Spain	Notes	(respirable aerosol)
United Kingdom	WEL TWA (mg/m ³)	6 mg/m ³ (inhalable aerosol) 2.4 mg/m ³ (respirable aerosol)
Switzerland	VME (mg/m ³)	4 mg/m ³
Switzerland	Remark (CH)	(einatembarer Staub)

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Xylene (1330-20-7)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	218 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	50 ppm
Finland	Huomautus (FI)	iho
Netherlands	Grenswaarde TGG 8H (ppm)	50 ppm
Poland	NDSch (mg/m ³)	350 mg/m ³
Slovakia	NPHV (priemerná) (mg/m ³)	221 mg/m ³ (K)
Slovakia	NPHV (priemerná) (ppm)	50 ppm (K) 1.5 ppm (Xylén) 2000 ppm (Suma kyselín 2,3,4-metylhippurových)
Sweden	Anmärkning (SE)	(H)
ethylbenzene (100-41-4)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	434 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	100 ppm
France	VME (mg/m ³)	88.4 mg/m ³
France	VME (ppm)	20 ppm
France	VLE (mg/m ³)	442 mg/m ³
France	VLE (ppm)	100 ppm
France	Note (FR)	Peau
Germany	TRGS 903 (BGW)	1 mg/l Ethylbenzol (Blut; Expositionsende bzw. Schichtende) 800 mg/l Mandelsäure + Phenylglyoxylsäure (Urin; Expositionsende bzw. Schichtende)
Slovakia	NPHV (priemerná) (mg/m ³)	442 mg/m ³ (K)
Slovakia	NPHV (priemerná) (ppm)	100 ppm (K) 12 ppm (2 - a 4 -Etylfenol) 1600 ppm (Kyselina mandlová a kyselina fenylglyoxylová)
Spain	VLA-ED (mg/m ³)	441 mg/m ³ vía dérmica, VLB, VLI
Spain	VLA-ED (ppm)	100 ppm vía dérmica, VLB, VLI 700 ppm I, S "(Suma del ácido mandélico y el ácido fenilgloxílico en orina; Final de la semana laboral 1)"
Spain	VLA-EC (mg/m ³)	884 mg/m ³ vía dérmica, VLB, VLI
Spain	VLA-EC (ppm)	200 ppm vía dérmica, VLB, VLI
barium sulfate (7727-43-7)		
Belgium	Remark (BE)	(sulfate de)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovateľná frakcia)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ inhalable aerosol 4 mg/m ³ respirable aerosol
Isopropanol (67-63-0)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	980 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	400 ppm
Germany	TRGS 903 (BGW)	50 mg/l Aceton (Blut; Expositionsende bzw. Schichtende)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	650 mg/m ³
Netherlands	Grenswaarde TGG 8H (ppm)	250 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	500 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	200 ppm
Spain	VLA-ED (mg/m ³)	500 mg/m ³ VLB, s

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Isopropanol (67-63-0)		
Spain	VLA-ED (ppm)	200 ppm VLB, s 40 ppm F, I "(Acetona en orina; Final de la semana, laboral 1)"
Spain	VLA-EC (mg/m ³)	1000 mg/m ³ VLB, s
Spain	VLA-EC (ppm)	400 ppm VLB, s
potassium sulfate (7778-80-5)		
Lithuania	IPRV (mg/m ³)	10 mg/m ³
calcium sulfate (7778-18-9)		
Belgium	Remark (BE)	(sulfate de)
Hungary	Megjegyzések (HU)	(respirable aerosol)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovateľná frakcia)
United Kingdom	WEL TWA (mg/m ³)	4 mg/m ³ (respirable dust) 10 mg/m ³ (inhalable dust)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(respirable aerosol)

8.2. Exposure controls

Appropriate engineering controls	: Avoid creating mist or spray. Avoid splashing. Either local exhaust or general room ventilation is usually required.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Use rubber gloves. EN 374.
Eye protection	: Chemical goggles or safety glasses. EN 166.
Skin and body protection	: Long sleeved protective clothing.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Use an approved respirator equipped with oil/mist cartridges. EN 12083.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Opaque liquid.
Colour	: Various.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: None (CC)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Explosive properties : No data available
 Oxidising properties : No data available
 Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Heat.

10.5. Incompatible materials

Strong bases. Strong acids.

10.6. Hazardous decomposition products

Burning produces irritating, toxic and noxious fumes. Carbon dioxide. Carbon monoxide. Hydrogen halide. Bromides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Not classified.

acetoacetanilide (102-01-2)	
LD50 oral rat	1131 (1131 - 4650) mg/kg
LD50 dermal	> 1000 mg/kg guinea pig
ATE CLP (oral)	1131.000 mg/kg bodyweight
ATE CLP (dermal)	1100.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h
Polyethylene Glycol (25322-68-3)	
LD50 oral rat	47000 mg/kg
LD50 dermal rat	> 20000 mg/kg
ATE CLP (oral)	47000.000 mg/kg bodyweight
1,2-epoxybutane (106-88-7)	
LD50 oral rat	1100 µl/kg
LC50 inhalation rat (Vapours - mg/l/4h)	30 minute exposure- 5/5 died, All unconscious when removed. Died by end of day. 12 minute exposure- 5/5 died, All unsteady when removed and died two hours after exposure. 6 minute exposure- 0/3 died.
ATE CLP (oral)	500.000 mg/kg bodyweight
ATE CLP (dermal)	1100.000 mg/kg bodyweight
ATE CLP (gases)	4500.000 ppmv/4h
ATE CLP (vapours)	11.000 mg/l/4h
ATE CLP (dust,mist)	1.500 mg/l/4h
1-bromopropane (106-94-5)	
LD50 oral rat	> 2000
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (ppm)	14374 ppm/4h
ATE CLP (gases)	14374.000 ppmv/4h
nitromethane (75-52-5)	
LD50 oral rat	1506 mg/kg

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

nitromethane (75-52-5)	
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 12.75 mg/l 1 h
ATE CLP (oral)	1506.000 mg/kg bodyweight
Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg EU Method B.1 (Acute Toxicity (Oral))
LC50 inhalation rat (mg/l)	> 20 mg/l/4h OECD Guideline 403 (Acute Inhalation Toxicity)
ATE CLP (oral)	5580.000 mg/kg bodyweight
2',4'-dimethylacetoacetanilide (97-36-9)	
LD50 oral rat	1995 mg/kg
ATE CLP (oral)	1995.000 mg/kg bodyweight
2'-methylacetanilide (120-66-1)	
LD50 oral rat	1450 mg/kg
ATE CLP (oral)	1450.000 mg/kg bodyweight
salicylamide (65-45-2)	
LD50 oral rat	1400 mg/kg
ATE CLP (oral)	1400.000 mg/kg bodyweight
adipic acid (124-04-9)	
LD50 oral rat	5560 mg/kg
LD50 dermal rabbit	7940 ml/kg
LC50 inhalation rat (mg/l)	> 7.7 mg/l/4h
ATE CLP (oral)	5560.000 mg/kg bodyweight
hymecromone (90-33-5)	
LD50 oral rat	3850 mg/kg
ATE CLP (oral)	3850.000 mg/kg bodyweight
Carbon black (1333-86-4)	
LD50 oral rat	> 8000 mg/kg
LC50 inhalation rat (mg/l)	> 4.6 mg/m ³ 4 h
Iron oxide red (1309-37-1)	
LD50 oral rat	> 10000 mg/kg
Aluminum oxide (1344-28-1)	
LD50 oral rat	> 15900 mg/kg
LC50 inhalation rat (mg/l)	7.6 mg/l/4h
ATE CLP (vapours)	7.600 mg/l/4h
ATE CLP (dust,mist)	7.600 mg/l/4h
manganese dioxide (1313-13-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h
Fluorescein (2321-07-5)	
LD50 oral rat	600 mg/kg
ATE CLP (oral)	600.000 mg/kg bodyweight
lithium carbonate (554-13-2)	
LD50 oral rat	525 mg/kg
LD50 dermal rabbit	> 3000 mg/kg
LC50 inhalation rat (mg/l)	> 2 mg/l/4h
ATE CLP (oral)	525.000 mg/kg bodyweight
Molybdenum trioxide (1313-27-5)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight
LC50 inhalation rat (mg/l)	> 3.92 mg/l/4h

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Colloidal Silicon dioxide (112945-52-5)	
LD50 oral rat	> 10000 mg/kg
LC50 inhalation rat (mg/l)	> 0.139 mg/l/4h
Xylene (1330-20-7)	
LD50 oral rat	> 3500 mg/kg
ATE CLP (dermal)	1100.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h
ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	17.8 ml/kg
LC50 inhalation rat (ppm)	< 1500 ppm
ATE CLP (oral)	3500.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h
disodium wolframate (13472-45-2)	
LD50 oral rat	1539 (1206 - 1965) mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.01 mg/l/4h
ATE CLP (oral)	1539.000 mg/kg bodyweight
barium sulfate (7727-43-7)	
LD50 oral rat	307 g/kg
LD50 dermal rat	> 2000 mg/kg
ATE CLP (oral)	307000.000 mg/kg bodyweight
Isopropanol (67-63-0)	
LD50 oral rat	5840 mg/kg
LD50 dermal rabbit	16.4 ml/kg
LC50 inhalation rat (ppm)	> 10000 ppm/4h
ATE CLP (oral)	5840.000 mg/kg bodyweight
potassium sulfate (7778-80-5)	
LD50 oral rat	> 2000 mg/kg OECD 425
LD50 dermal rat	> 2000 mg/kg OECD Test Guideline 402
LC50 inhalation rat (mg/l)	> 1.2 mg/l/4h OECD Guideline 433
calcium sulfate (7778-18-9)	
LD50 oral rat	> 1581 mg/kg No mortality observed
LC50 inhalation rat (mg/l)	> 3.26 mg/l/4h No mortality observed

Unknown acute toxicity (CLP: Classification, Labelling, Packaging.) - SDS : 25.1% of the mixture consists of ingredient(s) of unknown acute oral toxicity
25.1% of the mixture consists of ingredient(s) of unknown acute dermal toxicity
25.1% percent of the mixture consists of ingredient(s) of unknown acute inhalation (dust/mist) toxicity

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

barium sulfate (7727-43-7)	
NOAEL (chronic, oral, animal/male, 2 years)	60 mg/kg bodyweight
NOAEL (chronic, oral, animal/female, 2 years)	75 mg/kg bodyweight

calcium sulfate (7778-18-9)	
NOAEL (chronic, oral, animal/male, 2 years)	8400 mg/kg bodyweight

Reproductive toxicity : May damage fertility or the unborn child.
Specific target organ toxicity (single exposure) : May cause respiratory irritation. May cause drowsiness or dizziness.

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

potassium sulfate (7778-80-5)	
NOAEL (oral, rat)	>= 1500 mg/kg bodyweight Animal testing did not show any effects on fertility, mutagenic, or teratogenic effects.

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

acetoacetanilide (102-01-2)	
NOAEL (oral, rat, 90 days)	12 mg/kg bodyweight/day 28 days
Affected organs	blood
Route of exposure	oral

1-bromopropane (106-94-5)	
NOAEL (inhalation, rat, dust/mist/fume, 90 days)	1 mg/l/6h/day

Toluene (108-88-3)	
LOAEL (inhalation, rat, gas, 90 days)	1250 ppmv/6h/day
NOAEL (oral, rat, 90 days)	625 mg/kg bodyweight/day EU Method B.26. Increased relative weights of liver and kidney are interpreted as toxicologically insignificant differences in the absence of histological findings.
NOAEL (inhalation, rat, gas, 90 days)	300 ppmv/6h/day OECD Guideline 453

adipic acid (124-04-9)	
NOAEL (oral, rat, 90 days)	750 mg/kg bodyweight/day

potassium sulfate (7778-80-5)	
NOAEL (oral, rat, 90 days)	256 mg/kg bodyweight/day

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

acetoacetanilide (102-01-2)	
LC50 fish 1	242 (242 - 332) mg/l 96 hours, Brachydanio rerio
ErC50 (algae)	318 mg/l Selenastrum capricornutum , 72 hours
ErC50 (other aquatic plants)	500 mg/l 3 hours
NOEC chronic algae	180 mg/l

Polyethylene Glycol (25322-68-3)	
LC50 fish 1	> 100 mg/l
LC50 other aquatic organisms 1	1000 mg/l

1,2-epoxybutane (106-88-7)	
LC50 fish 1	> 100 mg/l 96 h
EC50 Daphnia 1	70 mg/l 48 h
ErC50 (algae)	> 500 mg/l 72 h

1-bromopropane (106-94-5)	
EC50 Daphnia 1	203 mg/l 24 h
ErC50 (algae)	52.4 mg/l

nitromethane (75-52-5)	
LC50 fish 1	659.2 mg/l 96 h
EC50 Daphnia 1	> 103 mg/l 48 h

Toluene (108-88-3)	
LC50 fish 1	5.5 mg/l
EC50 Daphnia 2	3.78 mg/l
ErC50 (algae)	134 mg/l
LOEC (chronic)	2.77 mg/l

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Toluene (108-88-3)	
NOEC chronic fish	1.39 mg/l
NOEC chronic crustacea	0.74 mg/l
2',4'-dimethylacetanilide (97-36-9)	
LC50 fish 1	250 (250 - 350) mg/l
salicylamide (65-45-2)	
LC50 fish 1	101 mg/l 96 h
EC50 Daphnia 1	75 mg/l 24 h
adipic acid (124-04-9)	
LC50 fish 1	>= 1000 mg/l 96 h
EC50 Daphnia 1	46 mg/l 48 h
Iron oxide red (1309-37-1)	
EC50 Daphnia 1	> 100 mg/l
Aluminum oxide (1344-28-1)	
EC50 Daphnia 1	> 1470 mg/l
NOEC (acute)	> 50 mg/l
manganese dioxide (1313-13-9)	
LC50 fish 1	> 100 % v/v saturated solution, 96 h
EC50 Daphnia 1	> 100 % v/v saturated solution, 48 h
lithium carbonate (554-13-2)	
LC50 fish 1	30.3 mg/l 96 h
EC50 Daphnia 1	33.2 mg/l 48 h
Molybdenum trioxide (1313-27-5)	
LC50 fish 1	>= 43.3 (≤ 58) mg/l
NOEC (chronic)	> 87.8 mg/l
ethylbenzene (100-41-4)	
LC50 fish 1	5.1 mg/l
EC50 other aquatic organisms 1	7.7 mg/l
NOEC (acute)	3.3 mg/l
disodium wolframate (13472-45-2)	
LC50 fish 1	> 200 mg/l 96 h
EC50 Daphnia 1	> 163 mg/l 96 h
barium sulfate (7727-43-7)	
LC50 fish 1	> 3.5 mg/l 96 h
EC50 Daphnia 1	14500 µg/l 48 h
Isopropanol (67-63-0)	
LC50 fish 1	10000 mg/l
potassium sulfate (7778-80-5)	
LC50 fish 1	680 mg/l 96h Pimephales promelas
EC50 Daphnia 1	720 mg/l 48h
ErC50 (algae)	2700 mg/l Chlorella vulgaris
calcium sulfate (7778-18-9)	
LC50 fish 1	> 56000 mg/l 96 h

12.2. Persistence and degradability

acetoacetanilide (102-01-2)	
Persistence and degradability	Readily biodegradable.
Biodegradation	97 % degraded after 6 days
1,2-epoxybutane (106-88-7)	
Persistence and degradability	Readily biodegradable.

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

1-bromopropane (106-94-5)	
Persistence and degradability	Readily biodegradable.
nitromethane (75-52-5)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	9.9 % 28 d
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable.
2',4'-dimethylacetoacetanilide (97-36-9)	
Biodegradation	25 % 28 d
salicylamide (65-45-2)	
Biodegradation	99 % 28 d
adipic acid (124-04-9)	
Persistence and degradability	Readily biodegradable.
Biodegradation	90 % 5 d
Carbon black (1333-86-4)	
Persistence and degradability	Not readily biodegradable.
ethylbenzene (100-41-4)	
Persistence and degradability	Not established.
Isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

acetoacetanilide (102-01-2)	
Log Pow	0.76
1,2-epoxybutane (106-88-7)	
Log Pow	0.86
1-bromopropane (106-94-5)	
BCF fish 1	11.29 L/kg ww
Log Pow	2.16
nitromethane (75-52-5)	
Log Pow	-0.241
Toluene (108-88-3)	
Bioconcentration factor (BCF REACH)	90
Log Kow	2.73
2',4'-dimethylacetoacetanilide (97-36-9)	
Log Pow	1.4
salicylamide (65-45-2)	
Log Pow	1.31
adipic acid (124-04-9)	
BCF fish 1	3.162
Log Pow	0.093
Xylene (1330-20-7)	
BCF fish 1	1.3 mg/l
Bioaccumulative potential	Not expected to bioaccumulate.
ethylbenzene (100-41-4)	
Bioaccumulative potential	Not established.
barium sulfate (7727-43-7)	
BCF fish 1	68.4 L/kg

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Isopropanol (67-63-0)	
Bioaccumulative potential	Not expected to bioaccumulate.

potassium sulfate (7778-80-5)	
Bioaccumulative potential	This product is not bioaccumulating.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Tempilaq® Temperature Indicating Liquid	
PBT: not yet assessed	
vPvB: not yet assessed	

Component	
1-bromopropane (106-94-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Toluene (108-88-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
potassium sulfate (7778-80-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
European List of Waste (LoW) code	: For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
H code	: H10 - 'Toxic for reproduction': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce non-hereditary congenital malformations or increase their incidence. H4 - 'Irritant': non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation. H5 - 'Harmful': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks. H7 - 'Carcinogenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not considered a dangerous good for transport regulations

14.2. UN proper shipping name

Proper Shipping Name (ADR) :

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

14.6.2. Transport by sea

No additional information available

14.6.3. Inland waterway transport

Carriage prohibited (ADN) : No

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substances with Annex XVII restrictions

Contains substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: 1-bromopropane (n-propyl bromide) (EC 203-445-0, CAS 106-94-5)

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Water hazard class (WGK) : 3 - severe hazard to waters

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Original Document.

Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	PBT: Persistent, Bioaccumulative, Toxic
	PNEC: Predicted No Effect Level
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weight Average

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

Data sources

: ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>.
 European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
 National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.
 OSHA 29CFR 1910.1200 Hazard Communication Standard.
 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
 TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

Other information

: None.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity (inhalation) Category 1A
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350i	May cause cancer by inhalation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H360FD	May damage fertility. May damage the unborn child
H361d	Suspected of damaging the unborn child
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
R10	Flammable
R11	Highly flammable

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Safety Data Sheet

according to Regulation (EC) No. 453/2010

R20	Harmful by inhalation
R20/21	Harmful by inhalation and in contact with skin
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R20/22	Harmful by inhalation and if swallowed
R22	Harmful if swallowed
R26	Very toxic by inhalation
R36	Irritating to eyes
R36/37	Irritating to eyes and respiratory system
R36/37/38	Irritating to eyes, respiratory system and skin
R38	Irritating to skin
R40	Limited evidence of a carcinogenic effect
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R5	Heating may cause an explosion
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53	Harmful to aquatic organisms, 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
R67	Vapours may cause drowsiness and dizziness
F	Highly flammable
N	Dangerous for the environment
T+	Very toxic
Xi	Irritant
Xn	Harmful

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Expert judgment
Carc. 2	H351	Calculation method
Repr. 1B	H360	Calculation method
STOT SE 3	H335	Calculation method
STOT SE 3	H336	Calculation method
STOT RE 2	H373	Calculation method

LA-CO EU CLP SDS

SDS Prepared by: The Redstone Group, LLC
 6397 Emerald Pkwy.
 Suite 200
 Dublin, OH USA 43016
 T 614-923-7472
www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product