



SAFETY DATA SHEET

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

Version #: 02
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture INK VUTEK QS SER 2 CYAN

Registration number -

UFI: EU: W922-AWNE-Y54G-CAHG

Synonyms None.

Product code 45076415

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

Identified uses Printing ink

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer EFI UK Ltd
Address Bowling Old Lane
Bradford
West Yorkshire
BD5 7JL
United Kingdom
Phone Number - General +44 1274 307704

Supplier Electronics for Imaging B.V.
Address VIA DEL LAVORO 130
24040 COMUN NUOVO (BG)
Italy
Phone Number - General +39 035 3844511

Email ehs@efi.com
Website efi.com

**Phone Number -
Emergency**

1.4. Emergency telephone number

General in EU 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

3E Global Incident Response +1 760 476 3962 Access Code: 57138. Available 24/7/365

Great Britain General emergency 112 or 999 SDS/Product information may not be available for the Emergency Service.

Austria National Poisons Information Centre +431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Belgium National Poisons Control Centre 070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Italy CAV Policlinico "A. Gemelli" 06-3054343 <https://preparatipericolosi.iss.it/cav.aspx>: (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

1.4. Emergency telephone number

Bulgaria National Toxicological Information Centre	+359 2 9154 233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Croatia Poisons Information Centre	+385 1 2348 342 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Cyprus Poison Centre	1401 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Czech Republic National Poisons Information Centre	+420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Denmark National Poisons Control Centre	+45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Estonia National Poisons Information Centre	16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)
Finland National Poison Information Centre	(09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
France National Poisons Control Centre	ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Greece Poison Information Centre telephone number	(0030) 2107793777 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Hungary National Emergency Phone Number	+36-80-201-199 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Iceland Poison Centre	(+354) 543 2222 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Latvia Emergency medical aid	113
Latvia Poison and Drug Information Centre	+371 67042473 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Lithuania Neatidėliotina informacija apsinuodijus	+370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Malta Accident and Emergency Department	2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Netherlands National Poisons Information Centre (NVIC)	NVIC: +31 (0)88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)
Norway Norwegian Poison Information Centre	22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Portugal Poison Centre	800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Romania Biroul RSI si Informare Toxicologica	021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.)
Slovakia National Toxicological Information Centre	+421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Spain Toxicology Information Service	+ 34 91 562 04 20 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Sweden National Poison Information Centre	112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Switzerland Tox Info Suisse	145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation

Category 2

H315 - Causes skin irritation.

Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Reproductive toxicity (fertility, the unborn child)	Category 1B	H360Fd - May damage fertility. Suspected of damaging the unborn child.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

UFI:

EU: W922-AWNE-Y54G-CAHG

Contains:

Isobornyl acrylate, 2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester, Neopentylglycol Propoxylated Diacrylate, Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide, 1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer, Caprolactone acrylate, 2-Phenoxyethyl acrylate, tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol, Ethylene Glycol Diacrylate

Hazard pictograms



Signal word

Danger

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage

P405	Store locked up.
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Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Supplemental label information

Restricted to professional users. 15,72 % of the mixture consists of component(s) of unknown acute oral toxicity. 1,61 % of the mixture consists of component(s) of unknown acute dermal toxicity. 66,64 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 17,42 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight. The mixture does not contain any substances having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Isobornyl acrylate	30 - < 40	5888-33-5 227-561-6	01-2119957862-25-XXXX	607-756-00-6	
Classification: Eye Irrit. 2;H319, Skin Sens. 1A;H317, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester	20 - < 30	2399-48-6 219-268-7	01-2120738396-46-XXXX	-	
Classification: Acute Tox. 4;H302;(ATE: 882 mg/kg bw), Skin Corr. 1;H314, Eye Dam. 1;H318, Skin Sens. 1;H317, Repr. 1B;H360, Aquatic Chronic 2;H411					
Neopentylglycol Propoxylated Diacrylate	10 - < 20	84170-74-1 -	01-2119970213-43-XXXX	607-133-00-9	
Classification: Skin Sens. 1;H317, Aquatic Chronic 2;H411					
2-hydroxy-2-methyl-1-phenyl-1-propanone	5 - < 10	7473-98-5 231-272-0	01-2119472306-39-XXXX	-	
Classification: Acute Tox. 4;H302;(ATE: 1694 mg/kg bw), Aquatic Chronic 3;H412					
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	5 - < 10	75980-60-8 278-355-8	01-2119972295-29-XXXX	015-203-00-X	SVHC
Classification: Skin Sens. 1B;H317, Repr. 1B;H360Fd, Aquatic Chronic 2;H411					
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer	1 - < 3	163702-01-0 -	01-2120016508-60-XXXX	-	
Classification: Repr. 2;H361f, Aquatic Chronic 2;H411					
Caprolactone acrylate	1 - < 3	110489-05-9 -	-	-	
Classification: Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317					
2-Phenoxyethyl acrylate	< 0,3	48145-04-6 256-360-6	01-2119980532-35-XXXX	-	
Classification: Eye Irrit. 2;H319, Skin Sens. 1;H317, Aquatic Chronic 2;H411					
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1)	< 0,3	73455-75-1 277-475-8	01-2120101495-65-XXXX	-	
Classification: Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)					
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol	< 0,3	97-99-4 202-625-6	01-2119968921-26-XXXX	603-061-00-7	
Classification: Eye Irrit. 2;H319, Repr. 1B;H360Df					
2-hydroxyethyl acrylate	< 0,2	818-61-1 212-454-9	01-2119459345-34-XXXX	607-072-00-8	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Acute Tox. 3;H311;(ATE: 300 mg/kg bw), Skin Corr. 1B;H314, Eye Dam. 1;H318, Skin Sens. 1;H317, Aquatic Acute 1;H400, Aquatic Chronic 3;H412					
Specific Concentration Limits: Skin Sens. 1;H317: C ≥ 0.2 %					
Ethylene Glycol Diacrylate	< 0,2	2274-11-5 218-886-4	-	607-133-00-9	
Classification: Acute Tox. 3;H301;(ATE: 100 mg/kg bw), Acute Tox. 3;H311;(ATE: 300 mg/kg bw), Eye Dam. 1;H318, Skin Sens. 1;H317					
Specific Concentration Limits: STOT SE 3;H335: C ≥ 10 %					
1,4-dihydroxybenzene; hydroquinone; quinol	< 0,1	123-31-9 204-617-8	01-2119524016-51-XXXX	604-005-00-4	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Eye Dam. 1;H318, Skin Sens. 1;H317, Muta. 2;H341, Carc. 2;H351, Aquatic Acute 1;H400(M=10)					
The remaining ingredients are either non-hazardous or below reportable limits	10 - < 20				

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Union workplace exposure limit(s).

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

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

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing agent suitable for type of surrounding fire.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters

Wear suitable protective equipment.

Special fire fighting procedures

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.

For emergency responders

Keep unnecessary personnel away. Ensure adequate ventilation. Avoid breathing mist/vapours. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

- E1 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 100 tonnes; Upper-tier requirements = 200 tonnes)

7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended

Components	Type	Value	Form
(29H,31H-phthalocyaninato(2-)-N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	MAK	1 mg/m3	Inhalable fraction.
		0,1 mg/m3	Fume and respirable dust.
	STEL	4 mg/m3	Inhalable fraction.
		0,4 mg/m3	Fume and respirable dust.
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	Ceiling	4 mg/m3	Inhalable fraction.
	MAK	2 mg/m3	Inhalable fraction.
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)	MAK	1 mg/m3	Inhalable fraction.
		0,1 mg/m3	Fume and respirable dust.
	STEL	4 mg/m3	Inhalable fraction.
		0,4 mg/m3	Fume and respirable dust.

Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1 - Chemical agents, as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	1 mg/m3

Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	2 mg/m3

Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	MAC	0,5 mg/m3

Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	Ceiling	4 mg/m3
		0,88 ppm
	TWA	2 mg/m3
		0,44 ppm

Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	Ceiling	2 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	STEL	10 mg/m3
		2 ppm
	TLV	5 mg/m3
		1 ppm

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	1,5 mg/m3
	TWA	0,5 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	STEL	10 mg/m3
		2 ppm
	TWA	5 mg/m3
		1 ppm

Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health

Components	Type	Value	Form
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	TWA	0,02 mg/m3	Respirable.
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	2 mg/m3	Respirable.
	TWA	0,5 mg/m3	
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)	TWA	0,02 mg/m3	
		0,02 mg/m3	

Greece. OELs, Presidential Decree No. 307/1986, as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	4 mg/m3
	TWA	2 mg/m3

Hungary. OELs. Decree on protection of workers exposed to chemical agents (5/2020. (II.6)), Annex 1&2, as amended

Components	Type	Value
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	STEL	0,2 mg/m3
	TWA	0,1 mg/m3
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)	STEL	0,2 mg/m3
	TWA	0,1 mg/m3
		0,1 mg/m3

Iceland. OELs. Regulation 390/2009 on Pollution Limits and Measures to Reduce Pollution at the Workplace, as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	2 mg/m3
	TWA	0,5 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	TWA	5 mg/m3
		1 ppm

Ireland. OELVs, Schedules 1 & 2, Code of Practice for Chemical Agents and Carcinogens Regulations

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	0,5 mg/m3

Italy. OELs (Legislative Decree n.81, 9 April 2008), as amended

Components	Type	Value	Form
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	1 mg/m3	
Hydrogen	TWA	1 mg/m3	Dust and mist.
[29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)		0,2 mg/m3	Fume.

Latvia. Occupational Exposure Limits of Chemical Substances at Workplace (Reg. No. 325/2007, L.V. 80, Annex 1), as amended

Components	Type	Value
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	TWA	5 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	TWA	0,5 mg/m3

Lithuania. Occupational Exposure Limit Values for Chemical Substances (Hygiene Norm HN 23:2011; Order No.V-824/A1-389), as amended

Components	Type	Value
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	TWA	5 mg/m3
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	1,5 mg/m3
	TWA	0,5 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	STEL	10 mg/m3
		2 ppm
	TWA	5 mg/m3
		1 ppm

Norway. Regulation No. 1358 on Measures and Limit Values for Physical and Chemical Factors in Work Environment and Infection Groups for Biological Factors, as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TLV	0,5 mg/m3

Poland. Maximum permissible concentrations and intensities of harmful factors in the work environment (Dz.U.Poz. 1286/2018, Annex 1)

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	2 mg/m3
	TWA	1 mg/m3

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	1 mg/m3

Romania. OELs. Limit Values of Chemical Agents at Workplace (Regulation 1.218/2006, M.O 845, Annex 1, 3&4, as amended)

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	2 mg/m3
	TWA	1 mg/m3

Slovakia. OELs. Maximum permissible exposure limits for chemical factors in workplace air (Regulation No 355/2006, Annex 1, Table 1, as amended)

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	2 mg/m3

Spain. OELs. INSST, Límites de Exposición Profesional Para Agentes Químicos, Table 1-Valores Límites Ambientales (VLAs)

Components	Type	Value	Form
(29H,31H-phthalocyaninato(2-)- N29,N30,N31,N32)copper (pigment Blue 15; Ci 74160) (CAS 147-14-8)	TWA	0,01 mg/m3	Respirable fraction.
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	2 mg/m3	
Hydrogen	TWA	0,01 mg/m3	Respirable fraction.
[29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)			

Sweden. OELs (Annex 1). Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1), as amended

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	1,5 mg/m3
	TWA	0,5 mg/m3
2-hydroxyethyl acrylate (CAS 818-61-1)	STEL	10 mg/m3
		2 ppm
	TWA	5 mg/m3 1 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

Components	Type	Value	Form
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	STEL	2 mg/m3	Vapor and aerosol, inhalable.
	TWA	2 mg/m3	Vapor and aerosol, inhalable.

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

Components	Type	Value
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	TWA	0,5 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)			
Long-term, Systemic, Dermal	1,66 mg/kg	90	Carcinogenicity
Long-term, Systemic, Inhalation	1,05 mg/m3	25	Carcinogenicity
Long-term, Systemic, Oral	0,6 mg/kg	25	Carcinogenicity
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer (CAS 163702-01-0)			
Long-term, Systemic, Dermal	0,00528 mg/kg	1800	Effect on fertility
Long-term, Systemic, Inhalation	0,29 mg/m3	150	Repeated dose toxicity
Long-term, Systemic, Oral	0,00528 mg/kg	1800	Effect on fertility
2-hydroxy-2-methyl-1-phenyl-1-propanone (CAS 7473-98-5)			
Long-term, Systemic, Dermal	0,5 mg/kg	200	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,9 mg/m3	50	Repeated dose toxicity
Long-term, Systemic, Oral	0,4 mg/kg	200	Repeated dose toxicity
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)			
Long-term, Systemic, Dermal	1,75 mg/kg	200	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,3 mg/m3	50	Repeated dose toxicity
Long-term, Systemic, Oral	0,18 mg/kg	200	Repeated dose toxicity
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)			
Long-term, Systemic, Dermal	0,0833 mg/kg	600	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,145 mg/m3	150	Repeated dose toxicity
Long-term, Systemic, Oral	0,0833 mg/kg	600	Repeated dose toxicity
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)			
Long-term, Systemic, Dermal	5 mg/kg	60	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,87 mg/m3	150	Repeated dose toxicity
Long-term, Systemic, Oral	0,5 mg/kg	600	Repeated dose toxicity
Isobornyl acrylate (CAS 5888-33-5)			
Long-term, Systemic, Dermal	0,83 mg/kg	120	Repeated dose toxicity
Long-term, Systemic, Inhalation	1,45 mg/m3	69	Repeated dose toxicity
Long-term, Systemic, Oral	0,83 mg/kg	120	Repeated dose toxicity
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)			
Long-term, Systemic, Dermal	16,67 mg/kg bw	600	Repeated dose toxicity
Long-term, Systemic, Inhalation	5,8 mg/m3	150	Repeated dose toxicity
Long-term, Systemic, Oral	1,67 mg/kg bw	600	Repeated dose toxicity

Derived no effect levels (DNELs)**General population**

Components	Value	Assessment factor	Notes
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)			
Long-term, Systemic, Dermal	0,5 mg/kg	200	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,25 mg/m3	150	Repeated dose toxicity
Long-term, Systemic, Oral	0,175 mg/kg	200	Repeated dose toxicity

Workers

Components	Value	Assessment factor	Notes
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)			
Long-term, Systemic, Dermal	3,33 mg/kg	45	Carcinogenicity
Long-term, Systemic, Inhalation	2,1 mg/m3	12,5	Carcinogenicity
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer (CAS 163702-01-0)			
Long-term, Systemic, Dermal	0,0148 mg/kg	900	Effect on fertility
Long-term, Systemic, Inhalation	1,175 mg/m3	75	Repeated dose toxicity
2-hydroxy-2-methyl-1-phenyl-1-propanone (CAS 7473-98-5)			
Long-term, Systemic, Dermal	1 mg/kg	100	Repeated dose toxicity
Long-term, Systemic, Inhalation	3,5 mg/m3	25	Repeated dose toxicity
2-hydroxyethyl acrylate (CAS 818-61-1)			
Long-term, Local, Inhalation	2,4 mg/m3	10	irritation respiratory tract
2-Phenoxyethyl acrylate (CAS 48145-04-6)			
Long-term, Local, Inhalation	77 mg/m3		Repeated dose toxicity
Long-term, Systemic, Dermal	3,5 mg/kg	100	Repeated dose toxicity
Long-term, Systemic, Inhalation	12 mg/m3	25	Repeated dose toxicity
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)			
Long-term, Systemic, Dermal	4,9 mg/kg	100	Repeated dose toxicity
Long-term, Systemic, Inhalation	1,73 mg/m3	25	Repeated dose toxicity
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)			
Long-term, Systemic, Dermal	0,233 mg/kg	300	Repeated dose toxicity
Long-term, Systemic, Inhalation	0,822 mg/m3	75	Repeated dose toxicity
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)			
Long-term, Systemic, Dermal	10 mg/kg	30	Repeated dose toxicity
Long-term, Systemic, Inhalation	3,5 mg/m3	75	Repeated dose toxicity
Isobornyl acrylate (CAS 5888-33-5)			
Long-term, Systemic, Dermal	1,39 mg/kg	72	Repeated dose toxicity
Long-term, Systemic, Inhalation	4,9 mg/m3	20,4	Repeated dose toxicity
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)			
Long-term, Systemic, Dermal	46,7 mg/kg bw	300	Repeated dose toxicity
Long-term, Systemic, Inhalation	32,9 mg/m3	75	Repeated dose toxicity
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)			
Long-term, Systemic, Dermal	1 mg/kg	100	Repeated dose toxicity
Long-term, Systemic, Inhalation	1,4 mg/m3	75	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)			
Freshwater	0,57 µg/l	10	
Marine water	0,057 µg/l	100	
Sediment (freshwater)	0,0049 mg/kg		
Sediment (marine water)	0,00049 mg/kg		
Soil	0,00064 mg/kg		Soil
STP	0,71 mg/l	100	
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer (CAS 163702-01-0)			
Freshwater	0,003 mg/l	1000	
Marine water	0 mg/l	10000	
Sediment (freshwater)	0,117 mg/kg		
Sediment (marine water)	0,012 mg/kg		
Soil	0,093 mg/kg		Soil
STP	0,16 mg/l	10	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
2-hydroxy-2-methyl-1-phenyl-1-propanone (CAS 7473-98-5)			
Freshwater	0,002 mg/l	1000	
Marine water	0 mg/l	10000	
Sediment (freshwater)	0,021 mg/kg		
Sediment (marine water)	0,002 mg/kg		
Soil	0,003 mg/kg		Soil
STP	45 mg/l	10	
2-hydroxyethyl acrylate (CAS 818-61-1)			
Freshwater	0,017 mg/l	50	
Marine water	0,002 mg/l	500	
Sediment (freshwater)	0,064 mg/kg		
Sediment (marine water)	0,006 mg/kg		
Soil	0,003 mg/kg		Soil
STP	10 mg/l	10	
2-Phenoxyethyl acrylate (CAS 48145-04-6)			
Freshwater	2 µg/l	50	
Marine water	0,2 µg/l	500	
Sediment (freshwater)	0,02 mg/kg		
Sediment (marine water)	0,002 mg/kg		
Soil	0,006 mg/kg		Soil
STP	1,77 mg/l	100	
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)			
Freshwater	3,92 µg/l	1000	
Marine water	0,392 µg/l	10000	
Sediment (freshwater)	0,021 mg/kg		
Sediment (marine water)	0,002 mg/kg		
Soil	0,002 mg/kg		Soil
STP	2,637 mg/l	100	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)			
Freshwater	1,4 µg/l	1000	
Marine water	0,14 µg/l	10000	
Sediment (freshwater)	0,115 mg/kg		
Sediment (marine water)	0,0115 mg/kg		
Soil	0,0222 mg/kg		Soil
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)			
Freshwater	0,001 mg/l	1000	
Marine water	0 mg/l	10000	
Sediment (freshwater)	2,42 mg/kg		
Sediment (marine water)	0,242 mg/kg		
Soil	4,81 mg/kg		Soil
STP	100 mg/l	10	
Isobornyl acrylate (CAS 5888-33-5)			
Freshwater	0,001 mg/l	100	
Marine water	0 mg/l	1000	
Sediment (freshwater)	0,145 mg/kg		
Sediment (marine water)	0,015 mg/kg	10	
Soil	0,029 mg/kg		Soil
STP	2 mg/l	10	
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)			
Freshwater	0,003 mg/l	1000	
Marine water	0 mg/l	10000	
Sediment (freshwater)	0,064 mg/kg		
Sediment (marine water)	0,006 mg/kg		
Soil	0,011 mg/kg		
STP	0,1 mg/l	10	
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)			
Freshwater	1,9 mg/l	50	
Marine water	0,19 mg/l	500	
Sediment (freshwater)	8,6 mg/kg		
Sediment (marine water)	0,86 mg/kg		
Soil	0,6 mg/kg		Soil
STP	10 mg/l	10	

Exposure guidelines

Czech Republic PELs: Skin designation

1,4-dihydroxybenzene; hydroquinone; quinol
(CAS 123-31-9)

Can be absorbed through the skin.

Denmark GV: Skin designation

2-hydroxyethyl acrylate (CAS 818-61-1)

Can be absorbed through the skin.

Estonia OELs: Skin designation

2-hydroxyethyl acrylate (CAS 818-61-1)

Can be absorbed through the skin.

Germany DFG MAK (advisory): Skin designation

1,4-dihydroxybenzene; hydroquinone; quinol
(CAS 123-31-9)

Can be absorbed through the skin.

Iceland OELs: Skin designation

2-hydroxyethyl acrylate (CAS 818-61-1)

Can be absorbed through the skin.

Lithuania OELs: Skin designation

2-hydroxyethyl acrylate (CAS 818-61-1)

Can be absorbed through the skin.

Slovakia OELs: Skin designation

1,4-dihydroxybenzene; hydroquinone; quinol
(CAS 123-31-9)

Can be absorbed through the skin.

Sweden Threshold Limit Values: Skin designation

1,4-dihydroxybenzene; hydroquinone; quinol
(CAS 123-31-9)

Can be absorbed through the skin.

2-hydroxyethyl acrylate (CAS 818-61-1)

Can be absorbed through the skin.

Switzerland SUVA Limit Values at the Workplace: Skin designation

1,4-dihydroxybenzene; hydroquinone; quinol
(CAS 123-31-9)

Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Chemical respirator with organic vapour cartridge and full facepiece.

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves.

- Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid.

Form

Liquid.

Colour

Cyan

Odour

Slight.

Melting point/freezing point

Not available.

Boiling point or initial boiling point and boiling range

Not available.

Flammability

Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit – upper (%)	Not available.
Flash point	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	0,16 hPa estimated
Density and/or relative density	
Density	1,07 g/cm3 estimated
Vapour density	Not available.
Particle characteristics	Not available.
9.2. Other information	
9.2.1. Information with regard to physical hazard classes	No relevant additional information available.
9.2.2. Other safety characteristics	
Specific gravity	1,07 estimated
VOC	23,01 % Using EU definition of VOC estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	None known.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
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Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Health injuries are not known or expected under normal use.

Symptoms	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
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11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	Not known.
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Components	Species	Test Results
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer (CAS 163702-01-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 2000 mg/kg

Components	Species	Test Results
2-hydroxy-2-methyl-1-phenyl-1-propanone (CAS 7473-98-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	6929 mg/kg, 24 Hours
Oral		
LD50	Rat	1694 mg/kg
2-hydroxyethyl acrylate (CAS 818-61-1)		
<u>Acute</u>		
Oral		
LD50	Rat	>= 500 mg/kg
2-Phenoxyethyl acrylate (CAS 48145-04-6)		
<u>Acute</u>		
Dermal		
<i>Liquid</i>		
LD50	Rat	2000 mg/kg, 14 days
Oral		
LD50	Rat	5000 mg/kg
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)		
<u>Acute</u>		
Oral		
LD50	Rat	882 mg/kg
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 2000 mg/kg
Isobornyl acrylate (CAS 5888-33-5)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 3000 mg/kg, 24 Hours
Oral		
LD50	Rat	4350 mg/kg
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)		
<u>Acute</u>		
Dermal		
<i>Liquid</i>		
LD50	Rabbit	> 2000 mg/kg
Oral		
<i>Liquid</i>		
LD50	Rat	> 5000 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory sensitisation	Not a respiratory sensitiser.	
Skin sensitisation	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	

Carcinogenicity	No data available to indicate product or any components present at greater than 0.1% are carcinogenic.
Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)	
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9) tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)	
IARC Monographs. Overall Evaluation of Carcinogenicity	
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	May damage fertility.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Mixture versus substance information	No information available.
11.2. Information on other hazards	
Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.
Other information	
Chronic toxicity	Prolonged inhalation may be harmful.
Dermal	Causes skin irritation.
Routes of exposure	Inhalation. Skin contact. Eye contact.

SECTION 12: Ecological information

12.1. Toxicity		Very toxic to aquatic life with long lasting effects.	
Components	Species		Test Results
1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	0,061 mg/l, 48 hours
Fish	LC50	Pimephales promelas	0,044 mg/l, 96 hours
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer (CAS 163702-01-0)			
Aquatic			
Acute			
Fish	LC50	Oncorhynchus mykiss	> 3,7 mg/l, 96 hours
2-hydroxy-2-methyl-1-phenyl-1-propanone (CAS 7473-98-5)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 119 mg/l, 48 hours
2-hydroxyethyl acrylate (CAS 818-61-1)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	0,78 mg/l, 48 hours
Fish	LC50	Pimephales promelas	3,61 mg/l, 96 hours
2-Phenoxyethyl acrylate (CAS 48145-04-6)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	1,21 mg/l, 48 hours
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	37,7 mg/l, 48 hours
Fish	LC50	Danio rerio	7,32 mg/l, 96 hours

Components		Species	Test Results
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)			
<i>Acute</i>			
Other	EC10	Pseudokirchnerella subcapitata	1,56 mg/l, 72 h
	EC50	Pseudokirchnerella subcapitata	> 2,01 mg/l, 72 hours
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	3,53 mg/l, 48 hours
Fish	LC50	Cyprinus carpio	1,4 mg/l, 96 hours
		Danio rerio	1,4 mg/l, 96 hours
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1) (CAS 73455-75-1)			

Aquatic

Acute

Crustacea	EC50	Daphnia magna	0,026 mg/l, 48 hours
Fish	LC50	Pimephales promelas	0,103 mg/l, 96 hours

Isobornyl acrylate (CAS 5888-33-5)

Aquatic

Acute

Fish	LC50	Danio rerio	0,704 mg/l, 96 hours
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Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)

Chronic

Other	EC10	Pseudokirchnerella subcapitata	2,3 mg/l, 72 h
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Aquatic

Acute

Algae	NOAEL	Algae	1 mg/l, 72 h
Crustacea	NOAEL	Daphnia magna	25,3 mg/l, 48 h
Fish	LC50	Danio rerio	2,7 mg/l, 96 h

tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)

Aquatic

Acute

Crustacea	EC50	Daphnia magna	> 91,7 mg/l, 48 hours
Fish	LC50	Oryzias latipes	> 101 mg/l, 96 hours

12.2. Persistence and degradability

No data is available on the degradability of any ingredients in the mixture.

12.3. Bioaccumulative potential

Partition coefficient

n-octanol/water (log Kow)

1,4-dihydroxybenzene; hydroquinone; quinol	0,59
2-hydroxyethyl acrylate	-0,21

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. Endocrine disrupting properties

This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.

12.7. Other adverse effects

Product does not contain substances which are persistent, mobile, and toxic (PMT) at levels of 0.1 % or higher. Product does not contain substances which are very persistent and very mobile (vPvM) 0.1 % or higher.

12.8. Additional information

Estonia Dangerous substances in soil Data

1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	Hydroquinone (As the sum of Phenols) 0,1 mg/kg
	Hydroquinone (As the sum of Phenols) 1 mg/kg
	Hydroquinone (As the sum of Phenols) 10 mg/kg

Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,
N30,N31,N32]cuprate(1-), Compound With Dodecylamine
(1:1) (CAS 73455-75-1)

Copper (Cu) 100 mg/kg

Copper (Cu) 150 mg/kg

Copper (Cu) 500 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number or ID number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	-
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number or ID number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number or ID number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number or ID number	UN3082
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14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Isobornyl Acrylate)

14.3. Transport hazard class(es)

Class 9

Subsidiary hazard -

14.4. Packing group III

14.5. Environmental hazards No.

ERG Code 9L

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

14.1. UN number or ID number UN3082

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl Acrylate), MARINE POLLUTANT

14.3. Transport hazard class(es)

Class 9

Subsidiary hazard -

14.4. Packing group III

14.5. Environmental hazards

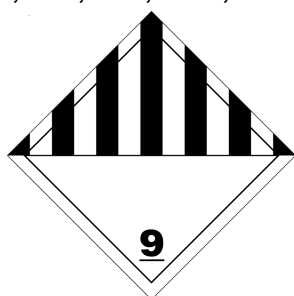
Marine pollutant Yes

EmS F-A, S-F

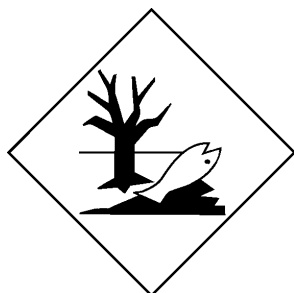
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not established.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Hydrogen [29H,31H-phthalocyaninesulphonato(3-)-N29,N30,N31,N32]cuprate(1-), Compound With Dodecylamine (1:1)
(CAS 73455-75-1)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended - Conditions of restriction given for the associated entry number should be considered

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide 75
(CAS 75980-60-8)
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended

Not listed.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008
- E1 Hazardous to the Aquatic Environment Acute
- E1 Hazardous to the Aquatic Environment Chronic

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

France regulations

France INRS Table of Occupational Diseases

1,4-dihydroxybenzene; hydroquinone; quinol (CAS 123-31-9)	Lésions eczématiformes de mécanisme allergique 65
Ethylene Glycol Diacrylate (CAS 2274-11-5)	Lésions eczématiformes de mécanisme allergique 65
Isobornyl acrylate (CAS 5888-33-5)	Lésions eczématiformes de mécanisme allergique 65
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)	Lésions eczématiformes de mécanisme allergique 65

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert – Germany).
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
MAC: Maximum Allowed Concentration.
PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TLV: Threshold Limit Value.
TWA: Time Weighted Average.
VLE: Exposure Limit Value.
VME: Exposure Average Value.
vPvB: Very persistent and very bioaccumulative.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H301 Toxic if swallowed.
H302 Harmful if swallowed.
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.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H360Df May damage the unborn child. Suspected of damaging fertility.
H360Fd May damage fertility. Suspected of damaging the unborn child.
H361f Suspected of damaging fertility.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Training information

Follow training instructions when handling this material.

Disclaimer

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