SAFETY DATA SHEET

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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 GS SER 3.1 YELLOW
Registration number	-
UFI:	EU: CUUJ-6YD4-8548-W9QP
Synonyms	None.
Product code	45104504

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

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

1.4. Emergency telephone number

3E Global Incident Response	+1 760 476 3962 Access Code: 57138. Available 24/7/365
General in EU	112 (Available 24 hours a day. 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.)
Great Britain General emergency	112 or 999 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).
Belgium National Poisons Control Centre	070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
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.)

1.4. Emergency telephone number

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. The classification of the substance or mixture has been performed in accordance with ABNT NBR 14725.

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 2	H319 - Causes serious eye irritation.
Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Reproductive toxicity (fertility, the unborn child)	Category 1B	H360FD - May damage fertility. May damage the unborn child.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.

2.2. Label elements

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

UFI:

EU: CUUJ-6YD4-8548-W9QP

Contains: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate, 2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester, Isobornyl acrylate, Neopentylglycol Propoxylated Diacrylate, 1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer, Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide, 2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate, phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide, 2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE, Caprolactone acrylate, tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol, Proprietary acrylated polyester oligomer

Hazard pictograms



Signal word Danger

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H411	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 mist/vapours.
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.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash 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.
P391	Collect spillage.

Storage

P405	Store locked up.

Disposal

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

Supplemental label information Restricted to professional users. 9,63 % of the mixture consists of component(s) of unknown acute oral toxicity. 26,01 % of the mixture consists of component(s) of unknown acute dermal toxicity. 2,93 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 72,13 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 20,2 % 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate	20 - < 30	66492-51-1 266-380-7	01-2119976303-36-XXXX	-	

Classification: Skin Irrit. 2;H315, Skin Sens. 1;H317, Aquatic Chronic 2;H411

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
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				
Isobornyl acrylate	20 - < 30	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				
Neopentylglycol Propoxylated Diacrylate	10 - < 20	84170-74-1 -	01-2119970213-43-XXXX	607-133-00-9	
Classification:	Skin Sens. 1B;H317				
1-Propanone, 2-hydroxy-2-methyl-1-[4-(1-methylethenyl)phenyl]-, homopolymer	3 - < 5	163702-01-0 -	01-2120016508-60-XXXX	-	
Classification:	Repr. 2;H361f, Aquatic Chronic 2;H411				
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3 - < 5	75980-60-8 278-355-8	01-2119972295-29-XXXX	015-203-00-X	
Classification:	Skin Sens. 1B;H317, Repr. 1B;H360Fd, Aquatic Chronic 2;H411				
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate	1 - < 3	15625-89-5 239-701-3	01-2119489896-11-XXXX	607-111-00-9	
Classification:	Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317, Carc. 2;H351, STOT SE 3;H335, Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)				
Specific Concentration Limits:	STOT SE 3;H335: C ≥ 10 %				
5-ethyl-1,3-dioxane-5-methanol	1 - < 3	5187-23-5 225-967-8	01-2119954531-39-XXXX	-	
Classification:	Eye Irrit. 2;H319				
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	1 - < 3	162881-26-7 423-340-5	01-2119489401-38-XXXX	015-189-00-5	
Classification:	Skin Sens. 1A;H317, Aquatic Chronic 4;H413				
2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE	< 1	119313-12-1 404-360-3	-	606-047-00-9	
Classification:	Repr. 1B;H360D, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
Caprolactone acrylate	< 1	110489-05-9 -	-	-	
Classification:	Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317				
2,6-di-tert-butyl-p-cresol	< 0,3	128-37-0 204-881-4	01-2119565113-46-XXXX	-	
Classification:	Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
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				
Proprietary acrylated polyester oligomer	< 0,2	P45085521-A -	-	-	
Classification:	Skin Irrit. 2;H315, Eye Irrit. 2;H319, Skin Sens. 1;H317				
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 if irritation develops and persists.

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. 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. Put material in suitable, covered, labeled containers.

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. 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
- E2 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 200 tonnes; Upper-tier requirements = 500 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
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	MAK	10 mg/m3

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	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	2 mg/m3	Vapour and aerosol.

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	50 mg/m3
	TWA	10 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
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	MAC	10 mg/m3

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	20 mg/m3
	TLV	10 mg/m3

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	20 mg/m3
	TWA	10 mg/m3

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG), as updated

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3	Vapor and aerosol, inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	AGW	10 mg/m3	Vapor and aerosol, inhalable fraction.

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	2 mg/m3

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

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.

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

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Ann. I 100/2001), as amended

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	KTV	40 mg/m3	Inhalable fraction.

Slovenia. OELs. Occupational Exposure Limits of Chemicals at Workplace (Reg. on Protection of Workers from Risks due to Exp. to Chemicals at Work, Annex I), as amended

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3	Inhalable fraction.

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 mg/m3

Switzerland. SUVA Grenzwerte am Arbeitsplatz: Aktuelle MAK-Werte

Components	Type	Value	Form
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	STEL	40 mg/m3	Vapor and aerosol, inhalable.
	TWA	10 mg/m3	Vapor and aerosol, inhalable.

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

Components	Type	Value
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	TWA	10 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) Not available.

Predicted no effect concentrations (PNECs) Not available.

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	Yellow
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	1,08 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

Percent volatile	0,0001 % estimated
Specific gravity	1,08 estimated
VOC	21,59 % Based on 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.

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 irritation.

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. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

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

Acute toxicity Not known.

Components	Species	Test Results
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS 66492-51-1)		
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
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
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 4 Weeks
Oral		
LD50	Rat	> 2930 mg/kg
2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 2000 mg/kg
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (CAS 15625-89-5)		
Acute		
Oral		
LD50	Rat	3680 mg/kg
2-propenoic Acid, (tetrahydro-2-furanyl)methyl Ester (CAS 2399-48-6)		
Acute		
Oral		
LD50	Rat	882 mg/kg
5-ethyl-1,3-dioxane-5-methanol (CAS 5187-23-5)		
Acute		
Oral		
LD50	Rat	> 2000 mg/kg

Components	Species	Test Results
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Isobornyl acrylate (CAS 5888-33-5)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg, 24 Hours
Oral		
LD50	Rat	4350 mg/kg
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)		
Acute		
Dermal		
Liquid		
LD50	Rabbit	> 2000 mg/kg
Oral		
Liquid		
LD50	Rat	> 5000 mg/kg
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (CAS 162881-26-7)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
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	Suspected of causing cancer.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)
tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol (CAS 97-99-4)

IARC Monographs. Overall Evaluation of Carcinogenicity

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (CAS 15625-89-5)	2B Possibly carcinogenic to humans.
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	May damage fertility. May damage the unborn child.
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	Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
(5-Ethyl-1,3-dioxan-5-yl)methyl acrylate (CAS 66492-51-1)			
Aquatic			
Acute			
Crustacea	EC50	Daphnids (no species mentioned)	11,577 mg/l, 48 hours
Fish	LC50	Fish	3,909 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
2,6-di-tert-butyl-p-cresol (CAS 128-37-0)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 0,17 mg/l, 48 hours
Fish	LC50	Danio rerio	> 0,57 mg/l, 96 hours
2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)			
Aquatic			
Acute			
Fish	LC50	Danio rerio	0,46 mg/l, 96 hours
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (CAS 15625-89-5)			
Aquatic			
Acute			
Fish	LC50	Danio rerio	0,87 mg/l, 96 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
5-ethyl-1,3-dioxane-5-methanol (CAS 5187-23-5)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	2466 mg/l, 48 hours
Fish	LC50	Danio rerio	> 1000 mg/l, 96 hours
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (CAS 75980-60-8)			
Acute			
Other	EC10	Pseudokirchnerella subcapitata	1,56 mg/l, 72 h
	EC50	Pseudokirchnerella subcapitata	> 2,01 mg/l, 72 hours
Aquatic			
Acute			
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
Isobornyl acrylate (CAS 5888-33-5)			
Aquatic			
Acute			
Fish	LC50	Danio rerio	0,704 mg/l, 96 hours
Neopentylglycol Propoxylated Diacrylate (CAS 84170-74-1)			
Aquatic			
Acute			
Algae	NOAEL	Algae	1 mg/l, 72 h
Crustacea	NOAEL	Daphnia magna	25,3 mg/l, 48 h

Components		Species	Test Results
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (CAS 162881-26-7)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	> 1175 µg/l, 48 hours
			> 1175 µg/l, 48 hours
Fish	LC50	Danio rerio	> 90 µg/l, 96 hours
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)	
2,6-di-tert-butyl-p-cresol	5,1

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 No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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 UN3082

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate; 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 UN3082

14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate; 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	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-Ethyl-1,3-dioxan-5-yl)methyl acrylate; 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

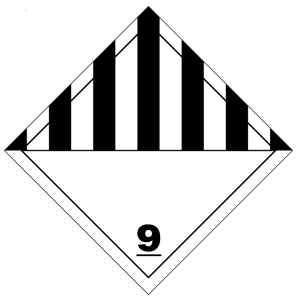
14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. ((5-ethyl-1,3-dioxan-5-yl)methyl Acrylate; Isobornyl Acrylate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
14.4. Packing group	III
14.5. Environmental hazards	No.
ERG Code	9L
14.6. 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	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-ethyl-1,3-dioxan-5-yl)methyl Acrylate; 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

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)
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 (CAS 75980-60-8) 75
2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)
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
- E2 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.

2-BENZYL-2-DIMETHYLAMINO-4'-MORPHOLINOBUTYROPHENONE (CAS 119313-12-1)
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 Use of this product by young persons under the age of 18 is not allowed in accordance with the Management of Health and Safety at Work Regulations 1999 [SI 1999/3242], 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

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate; 2,2-bis(acryloyloxymethyl)butyl acrylate; trimethylolpropane triacrylate (CAS 15625-89-5)	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.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MAC: Maximum Allowed Concentration.
MARPOL: International Convention for the Prevention of Pollution from Ships.
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

H302 Harmful if swallowed.
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.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H360D May damage 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.
H413 May cause long lasting harmful effects to aquatic life.

Revision information	Product and Company Identification: EU Poison Centre SECTION 2: Hazards identification: Hazard statements SECTION 2: Hazards identification: Prevention SECTION 2: Hazards identification: Response Composition / Information on Ingredients: Undisclosed Ingredient Statement SECTION 4: First aid measures: Inhalation SECTION 7: Handling and storage: 7,1. Precautions for safe handling SECTION 7: Handling and storage: 7,2. Conditions for safe storage, including any incompatibilities SECTION 11: Toxicological information: Acute toxicity SECTION 11: Toxicological information: Inhalation Transport Information: Material Transportation Information
Training information	Follow training instructions when handling this material.
Disclaimer	EFI UK Ltd. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.