Safety data sheet

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

1.1. Product identifier

Code: **CK32253B001, CK32252B001**

Product name **KRAFT HARD DUKO METALLIZED (GLOSS/MATTE BASE)**

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

Intended use **High performance enamel paint for metal**

1.3. Details of the supplier of the safety data sheet

Name **DRUCKFARBEN HELLAS SA**

Full address **Megaridos Ave**

District and Country **193 00 Aspropyrgos (Attiki)**
Greece

Tel. +30 210 5519500

Fax +30 210 5519501

e-mail address of the competent person

responsible for the Safety Data Sheet **psafety@druckfarben.gr**

1.4. Emergency telephone number

For urgent inquiries refer to **+30 210 7793777**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Warning

Hazard statements:

H226	Flammable liquid and vapour.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
EUH208	Contains: oxybis(methyl-2,1-ethanediyl) diacrylate May produce an allergic reaction.

Precautionary statements:

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves / eye protection / face protection.
P370+P378	In case of fire: use CO_2, foam or dry powder for extinction.
P501	Dispose of contents and container to an approved waste disposal plant or recycled in accordance with local / national / international regulations.
P101	If medical advice is needed, have product container or label at hand.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Contains:	xylene (mixture of isomers) hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics n-butyl acetate 1-methoxy-2-propanol

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification 1272/2008**

		(CLP)
hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics		
CAS 64742-48-9	30 < x < 50	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, EUH066, Note P
EC 919-857-5		
INDEX -		
Reg. no. 01-2119463258-33-0000		
xylene (mixture of isomers)		
CAS 1330-20-7	10 < x < 20	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Note C
EC 215-535-7		
INDEX 601-022-00-9		
Reg. no. 01-2119488216-32		
n-butyl acetate		
CAS 123-86-4	5 < x < 9	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		
INDEX 607-025-00-1		
1-methoxy-2-propanol		
CAS 107-98-2	1 < x < 5	Flam. Liq. 3 H226, STOT SE 3 H336
EC 203-539-1		
INDEX 603-064-00-3		
Butan-1-ol		
CAS 71-36-3	1 < x < 3	Flam. Liq. 3 H226, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336
EC 200-751-6		
INDEX 603-004-00-6		
ethylbenzene		
CAS 100-41-4	1 < x < 5	Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373
EC 202-849-4		
INDEX 601-023-00-4		
Reg. no. 01-2119489370		
Hydrocarbons, C10-C13, isoalkanes, cyclics, <2% aromatics		
CAS -	1 < x < 5	Asp. Tox. 1 H304, EUH066
EC 918-317-6		
INDEX -		

Reg. no. 01-2119474196-32-xxxx

zinc octoate

CAS 136-53-8	0,5 < x < 1	Skin Irrit. 2 H315
EC 209-156-6		
INDEX -		

zirconium octoate

CAS 22464-99-9	0 < x < 0,5	Repr. 2 H361d
EC 245-018-1		
INDEX -		
Reg. no. 01-2119979088-21-0004		

2-butoxyethanol

CAS 111-76-2	0 < x < 0,5	Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		
INDEX 603-014-00-0		
Reg. no. 01-2119475108-36		

oxybis(methyl-2,1-ethanediyl) diacrylate

CAS 57472-68-1	0 < x < 0,5	Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC 260-754-3		
INDEX -		
Reg. no. 01-2119484629-21		

2-methoxy-1-methylethyl acetate

CAS 108-65-6	0 < x < 0,5	Flam. Liq. 3 H226
EC 203-603-9		
INDEX 607-195-00-7		

acetone

CAS 67-64-1	0 < x < 0,5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
INDEX 606-001-00-8		
Reg. no. 01-2119471330-49-0016		

2,6-di-tert-butyl-p-cresol

CAS 128-37-0	0 < x < 0,5	Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 204-881-4		
INDEX -		
Reg. no. 01-2119565113-46		

2-(2-butoxyethoxy)ethanol

CAS 112-34-5 0 < x < 0,5 Eye Irrit. 2 H319

EC 203-961-6

INDEX 603-096-00-8

Reg. no. 01-2119475104-44

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30

		декември 2003 г
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
EU	OEL EU	Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2016

2,6-di-tert-butyl-p-cresol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	EU	10			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0002	mg/l
Normal value in marine water	0,00002	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers			
Inhalation					VND	3,5 mg/kg
Skin					VND	0,5 mg/kg bw/d

2-(2-butoxyethoxy)ethanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	GRC	67,5	10	101,2	15
OEL	EU	67,5	10	101,2	15
TLV-ACGIH		66	10		

hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	GRC	1200			

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers			
Oral		VND	300 mg/kg/d				
Inhalation		VND	900 mg/m3	VND	1500 mg/m3		
Skin		VND	300 mg/kg/d			VND	300 mg/kg/d

xylene (mixture of isomers)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	GBR		50		100
TLV	GRC	435	100	650	150
OEL	EU	221	50	442	100

TLV-ACGIH			100		150			
Predicted no-effect concentration - PNEC								
Normal value in fresh water				0,327	mg/l			
Normal value in marine water				0,327	mg/l			
Normal value for fresh water sediment				12,46	mg/kg			
Normal value for marine water sediment				12,46	mg/kg			

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
Oral			VND	1,6 mg/kg/d				
Inhalation	174 mg/m3	174 mg/m3	VND	14,8 mg/m3	289 mg/m3	289 mg/m3	VND	77 mg/m3
Skin			VND	108 mg/kg/d			VND	180 mg/kg/d

n-butyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min			
		mg/m3	ppm	mg/m3	ppm		
WEL	GBR		150		200		
TLV	GRC	710	150	950	200		
TLV-ACGIH			150		200		
Predicted no-effect concentration - PNEC							
Normal value in fresh water				0,18	mg/l		
Normal value in marine water				0,018	mg/l		
Normal value for fresh water sediment				0,981	mg/kg		
Normal value for marine water sediment				0,0981	mg/kg		
Normal value for water, intermittent release				0,36	mg/l		
Normal value of STP microorganisms				35,6	mg/l		

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
Inhalation	859,7 mg/m3	859,7 mg/m3	102,34 mg/m3	102,34 mg/m3	960 mg/m3	960 mg/m3	480 mg/m3	480 mg/m3

Butan-1-ol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
WEL	GBR			154	50	SKIN
TLV	GRC	300	100	300	100	
TLV-ACGIH		61	20			

ethylbenzene

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	GBR		100		125
TLV	GRC	435	100	545	125
OEL	EU	442	100	884	200

TLV-ACGIH		100		125	

zinc octoate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	EU	3700			

zirconium octoate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	EU	5000			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,36	mg/l
Normal value in marine water	0,036	mg/l
Normal value for fresh water sediment	6,37	mg/kg
Normal value for marine water sediment	0,637	mg/kg
Normal value of STP microorganisms	71,7	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers		
Oral	VND	7,9 mg/kg/d				
Inhalation	VND	2,5 mg/m3			VND	5 mg/m3
Skin	VND	7,9 mg/kg/d			VND	15,75 mg/kg/d

1-methoxy-2-propanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	GBR		100		150
TLV	GRC	360	100	1080	300
OEL	EU	375	100	568	150
TLV-ACGIH			100		150

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	41,6	mg/kg
Normal value for marine water sediment	4,17	mg/kg
Normal value for water, intermittent release	100	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers			
Oral	VND	3,3 mg/kg					
Inhalation	VND	43,9 mg/m3	553,5 mg/m3	VND	VND	369 mg/m3	
Skin	VND	18,1 mg/kg			VND	50,6 mg/kg	

2-butoxyethanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	98		246		SKIN
WEL	GBR	123	25	246	50	SKIN
TLV	GRC	120	25			
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
Oral			VND	3,2 mg/kg				
Inhalation	123 mg/m3	VND	VND	49 mg/m3			VND	20 ppm
Skin			VND	38 mg/kg			VND	75 mg/kg

2-methoxy-1-methylethyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	275		550		SKIN
WEL	GBR	274	50	548	100	
TLV	GRC	275	50	550	100	
OEL	EU	275	50	550	100	SKIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,635	mg/l
Normal value in marine water	0,0635	ml/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value for water, intermittent release	6,35	mg/l
Normal value of STP microorganisms	100	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
Oral			VND	1,67 mg/kg				
Inhalation			VND	33 mg/m3	553,5 mg/m3	VND	VND	275 mg/m3
Skin			VND	54,8 mg/kg			VND	153,5 mg/kg

acetone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	BGR	600		1400	
WEL	GBR	1210	500	3620	1500
TLV	GRC	1780		3560	
OEL	EU	1210	500		
TLV-ACGIH		1187	500	1781	750

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10,6	mg/l
Normal value in marine water	1,06	mg/l
Normal value of STP microorganisms	29,5	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers			
Oral	VND	62 mg/kg/d				
Inhalation	VND	200 mg/m3	VND	2420 mg/m3	VND	1210 mg/m3
Skin	VND	62 mg/kg/d			VND	186 mg/kg/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with

environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	viscous liquid
Colour	silver
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	23 < T < 60 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0.92-1.25 g/mL
Solubility	soluble in organic solvents
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	85KU (±20)
Explosive properties	not applicable
Oxidising properties	not applicable

9.2. Other information

Total solids (250°C / 482°F)	62% (±5)
VOC (Directive 2010/75/EC) :	61,48 %
VOC (volatile carbon) :	55,15 %

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

n-butyl acetate
N-BUTYL ACETATE: decomposes readily with water, especially when warm.

1-methoxy-2-propanol
Dissolves various plastic materials. Stable in normal conditions of use and storage.

Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

Butan-1-ol
Attacks various types of plastic materials.

1-methoxy-2-propanol
1-METHOXY-2-PROPANOL: absorbs and disolves in water and in organic solvents, dissolves various plastic materials; it is stable but with air it may slowly form explosive peroxides.

2-butoxyethanol
2-BUTOXYETHANOL: decomposes in the presence of heat.

2-methoxy-1-methylethyl acetate
Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

acetone
ACETONE: decomposes under the effect of heat.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

2-(2-butoxyethoxy)ethanol
May react with: oxidising substances.May form peroxides with: oxygen.Develops hydrogen on contact with: aluminium.May form explosive mixtures with: air.

xylene (mixture of isomers)
XYLENE (MIXTURE OF ISOMERS): stable, but may develop violent reactions in the presence of strong oxidising agents such as sulphuric and nitric acids and perchlorates. May form explosive mixtures with the air.

n-butyl acetate
N-BUTYL ACETATE: risk of explosion on contact with: strong oxidising agents. Can react dangerously with alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with the air.

1-methoxy-2-propanol
May react dangerously with: strong oxidising agents,strong acids.

Butan-1-ol
Reacts violently developing heat on contact with: aluminium,strong oxidising agents,strong reducing agents,hydrochloric acid.Forms explosive mixtures with: air.

ethylbenzene
ETHYLBENZENE: reacts violently with strong oxidising agents and attacks various types of plastics. Can form explosive mixtures with the air.

2-butoxyethanol
2-BUTOXYETHANOL: can react dangerously with: aluminium, oxidising agents. Forms peroxide with air.

2-methoxy-1-methylethyl acetate
May react violently with: oxidising substances,strong acids,alkaline metals.

acetone
ACETONE: risk of explosion on contact with: bromine trifluoride, difluoro dioxide, hydrogen peroxide, nitrosyl chloride, 2-methyl-1,3 butadiene, nitromethane, nitrosyl perchlorate. Can react dangerously with: potassium tert-butoxide, alkaline hydroxides, bromine, bromoform, isoprene, sodium, sulphur dioxide, chromium trioxide, chromyl chloride, nitric acid, chloroform, peroxymonosulphuric acid, phosphoryl chloride, chromosulphuric acid, fluorine, strong oxidising agents. Develops flammable gases with nitrosyl perchlorate.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

2-(2-butoxyethoxy)ethanol
Avoid exposure to: air.

n-butyl acetate
N-BUTYL ACETATE: avoid exposure to moisture, sources of heat and naked flames.

Butan-1-ol
Avoid exposure to: sources of heat,naked flames.

1-methoxy-2-propanol
1-METHOXY-2-PROPANOL: avoid exposure to the air.

2-butoxyethanol
2-BUTOXYETHANOL: avoid exposure to sources of heat and naked flames.

acetone
ACETONE: avoid exposure to sources of heat and naked flames.

10.5. Incompatible materials

2-(2-butoxyethoxy)ethanol
Incompatible with: oxidising substances,strong acids,alkaline metals.

n-butyl acetate
N-BUTYL ACETATE: water, nitrates, strong oxidising agents, acids and alkalis and potassium tert-butoxide.

1-methoxy-2-propanol
1-METHOXY-2-PROPANOL: oxidising agents, strong acids and alkaline metals.

2-methoxy-1-methylethyl acetate
Incompatible with: oxidising substances,strong acids,alkaline metals.

acetone
ACETONE: acid and oxidising substances.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

2-(2-butoxyethoxy)ethanol
May develop: hydrogen.

ethylbenzene
ETHYLBENZENE: methane, styrene, hydrogen, ethane.

2-butoxyethanol
2-BUTOXYETHANOL: hydrogen.

acetone
ACETONE: ketenes and other irritating compounds.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

ethylbenzene
ETHYLBENZENE: like the benzene homologues, may exert an effect on the CNS with depression, narcosis, often preceded by dizziness and accompanied by headache. It is irritating to the skin, conjunctivae and respiratory apparatus.

1-methoxy-2-propanol
1-METHOXY-2-PROPANOL: the main way of entry is the skin, whereas the respiratory way is less important owing to the low vapour tension of the product. Concentrations above 100 ppm cause eye irritation, nose and oropharynx. At 1000 ppm disturbance in the equilibrium and severe eye irritation is observed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and ocular irritation on direct contact. No chronic effects have been reported in man.

n-butyl acetate
N-BUTYL ACETATE:in humans the substance's vapours cause irritation to the eyes and nose. In the event of repeated exposure, there is skin irritation, dermatosis (with dryness and flaking of the skin) and keratitis.

xylene (mixture of isomers)
XYLENE (MIXTURE OF ISOMERS): has a toxic effect on the CNS (encephalopathies). Irritating to the skin, conjunctivae, cornea and respiratory apparatus.

Metabolism, toxicokinetics, mechanism of action and other information
Information on likely routes of exposure

2-(2-butoxyethoxy)ethanol
WORKERS: inhalation; contact with the skin.

1-methoxy-2-propanol
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

2-(2-butoxyethoxy)ethanol
May be absorbed by inhalation, ingestion and skin contact; is irritating for the skin and especially for the eyes. May cause damage to the spleen. At room temperature the danger of inhalation is unlikely, due to the low vapour pressure of the substance.

Interactive effects
Information not available
ACUTE TOXICITY
LC50 (Inhalation) of the mixture:> 20 mg/l
LD50 (Oral) of the mixture:>2000 mg/kg
LD50 (Dermal) of the mixture:>2000 mg/kg

2-butoxyethanol
LD50 (Oral) 1746 mg/kg Rat
LD50 (Dermal) > 2000 mg/kg Rabbit
LC50 (Inhalation)

zirconium octoate
LD50 (Oral) 2043 mg/kg Rat

acetone
LD50 (Oral) 5800 mg/kg Rat
LD50 (Dermal) 500 mg/kg Rabbit

hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics
LD50 (Oral) > 5000 mg/kg Rat
LD50 (Dermal) > 5000 mg/kg Rabbit
LC50 (Inhalation)

ethylbenzene
LD50 (Oral) 3500 mg/kg Rat
LD50 (Dermal) > 5000 mg/kg Rabbit

1-methoxy-2-propanol
LD50 (Oral) > 2000 mg/kg Rat
LD50 (Dermal) > 5000 mg/kg Rabbit
LC50 (Inhalation)

n-butyl acetate
LD50 (Oral) > 10 mg/kg Rat
LD50 (Dermal) > 14 mg/kg Rabbit
LC50 (Inhalation)

xylene (mixture of isomers)
LD50 (Oral) 3523 mg/kg Rat
LD50 (Dermal) > 1700 mg/kg Rabbit
LC50 (Inhalation)

2-methoxy-1-methylethyl acetate
LD50 (Oral) 8530 mg/kg Rat
LD50 (Dermal) > 5000 mg/kg Rat
LC50 (Inhalation)

2-(2-butoxyethoxy)ethanol
LD50 (Oral) 6560 mg/kg Rat
LD50 (Dermal) 2700 mg/kg Rabbit

Butan-1-ol
LD50 (Oral) 790 mg/kg Rat
LD50 (Dermal) 3400 mg/kg Rabbit
LC50 (Inhalation)

SKIN CORROSION / IRRITATION
Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION
Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION
May produce an allergic reaction. Contains: oxybis(methyl-2,1-ethanediyl) diacrylate

GERM CELL MUTAGENICITY
Does not meet the classification criteria for this hazard class

CARCINOGENICITY
Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY
Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE
May cause respiratory irritationMay cause drowsiness or dizziness

STOT - REPEATED EXPOSURE
May cause damage to organs

ASPIRATION HAZARD
Does not meet the classification criteria for this hazard class Viscosity: >20,5 mm2/sec (40°C)

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

2-butoxyethanol

LC50 - for Fish	1474 mg/l/96h
EC50 - for Crustacea	1550 mg/l/48h
EC50 - for Algae / Aquatic Plants	1840 mg/l/72h
Chronic NOEC for Fish	> 100 mg/l
Chronic NOEC for Crustacea	> 100 mg/l

acetone

LC50 - for Fish	> 100 mg/l/96h
EC50 - for Algae / Aquatic Plants	> 5600 mg/l/72h
Chronic NOEC for Fish	0,1 mg/l

hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

LC50 - for Fish	> 100 mg/l/96h Fish / Aquatic Invertebrates / Algae / Microorganisms
EC50 - for Crustacea	> 100 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Chronic NOEC for Fish	> 0,1 mg/l
Chronic NOEC for Crustacea	> 0,1 mg/l

1-methoxy-2-propanol

LC50 - for Fish	> 6,8 mg/l/96h

n-butyl acetate

LC50 - for Fish	> 18 mg/l/96h Fish / Aquatic Invertebrates / Algae / Microorganisms
EC50 - for Crustacea	> 44 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 675 mg/l/72h

xylene (mixture of isomers)

LC50 - for Fish	> 100 mg/l/96h Microorganisms

2-(2-butoxyethoxy)ethanol

LC50 - for Fish	1300 mg/l/96h
EC50 - for Crustacea	100 mg/l/48h

12.2. Persistence and degradability

2-butoxyethanol

Rapidly degradable

zirconium octoate

Rapidly degradable

acetone

Rapidly degradable

hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Rapidly degradable

xylene (mixture of isomers)

Rapidly degradable

2-methoxy-1-methylethyl acetate

Solubility in water	> 10000 mg/l

Rapidly degradable

2-(2-butoxyethoxy)ethanol

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

Butan-1-ol

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

1-methoxy-2-propanol

Solubility in water	1000 - 10000 mg/l

Rapidly degradable

2,6-di-tert-butyl-p-cresol

Degradability: information not available

12.3. Bioaccumulative potential

zirconium octoate

Partition coefficient: n-octanol/water	2,96

acetone

Partition coefficient: n-octanol/water	-0,24
BCF	3

2-methoxy-1-methylethyl acetate

Partition coefficient: n-octanol/water	1,2

2-(2-butoxyethoxy)ethanol

Partition coefficient: n-octanol/water	1

Butan-1-ol

Partition coefficient: n-octanol/water	1
BCF	3,16

1-methoxy-2-propanol

Partition coefficient: n-octanol/water	< 1

2,6-di-tert-butyl-p-cresol

Partition coefficient: n-octanol/water	5,1 Log Kow
BCF	< 1800

12.4. Mobility in soil

Butan-1-ol

Partition coefficient: soil/water	0,388

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1263

14.2. UN proper shipping name

ADR / RID:	PAINT or PAINT RELATED MATERIAL
IMDG:	PAINT or PAINT RELATED MATERIAL
IATA:	PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID:	Class: 3	Label: 3
IMDG:	Class: 3	Label: 3
IATA:	Class: 3	Label: 3

14.4. Packing group

ADR / RID, IMDG, IATA:	III

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30	Limited	Tunnel

		Quantities: 5 L	restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	A3, A72, A192	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point	3 - 40

Contained substance

Point	55	2-(2-BUTOXYETHOXY)ETHANOL Reg. no.: 01-2119475104-44

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisarion (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number

- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
02 / 03 / 08 / 09 / 10 / 11 / 12.