

**CROMOLOGY ITALIA S.p.A.****Vulkeol HS**MAX
Revision nr.1
Dated 29/5/2015
Printed on 1/7/2015
Page n. 1 / 19

EN

Safety data sheet

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

1.1. Product identifier

Code: MAX024352S
Product name: Vulkeol HS

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

Identified Uses	Industrial	Professional	Consumer
	-	✓	✓

1.3. Details of the supplier of the safety data sheet

Name: CROMOLOGY ITALIA S.p.A.
Full address: Sede Legale: Via IV Novembre 4
District and Country: 55016 Porcari LU
ITALY
Tel. 199119955 (+39)05832424
Fax 199119977

e-mail address of the competent person responsible for the Safety Data Sheet: info-sds@cromology.it

Product distribution by: CROMOLOGY ITALIA S.p.A.

1.4. Emergency telephone number

For urgent inquiries refer to:
Numeri telefonici dei principali Centri Antiveleni italiani (attivi 24/24 ore):
Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia);
Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca` Granda - Milano);
Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo);
Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze);
Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma);
Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberto I - Roma);
Centro Antiveleni di Roma 06 68593726 (CAV Osp. Pediatrico Bambino Gesù- Roma);
Centro Antiveleni di Foggia 0881 732326 (Azienda Ospedaliero Universitaria di Foggia);
Centro Antiveleni di Napoli 081 7472870 (CAV Ospedale Cardarelli - Napoli).

Per ulteriori informazioni: Cromology Italia SpA 199119955 (+39)05832424 from Monday to Friday 9:30-12:30 14:00-17:30.

Vulkeol HS**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.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments

Hazard classification and indication:

Flam. Liq. 3 H226
STOT SE 3 H336
Aquatic Chronic 3 H412
EUH066

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Warning symbols: None

R phrases: 10-52/53-66-67

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

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.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.
EUH208 Contains:
COBALT SALTS OF FATTY ACIDS
2-BUTANONE OXIME
May produce an allergic reaction

Precautionary statements:

**CROMOLOGY ITALIA S.p.A.****Vulkeol HS**MAX
Revision nr.1
Dated 29/5/2015
Printed on 1/7/2015
Page n. 3 / 19

EN

SECTION 2. Hazards identification ... / >>

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in compliance with local regulation.

Contains: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, <2% aromatic

2.3. Other hazards

Information not available

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification	Conc. %	Classification 67/548/EEC	Classification 1272/2008 (CLP)	
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, <2% aromatic				
<i>EC</i>	919-857-5	15 - 19	R10, R66, R67, Xn R65	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336
<i>Reg. no.</i>	01-2119463258-33-XXXX			
XYLENE				
<i>CAS</i>	1330-20-7	2,9 - 4	R10, Xi R36/37/38, Xn R20/21, Xn R48/20, Xn R65,	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332,
<i>EC</i>	215-535-7		Note C	Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319,
<i>INDEX</i>	601-022-00-9			Skin Irrit. 2 H315, STOT SE 3 H335, Nota C
<i>Reg. no.</i>	01-2119488216-32-XXXX			
HYDROCARBURES, C14-C18, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES				
<i>EC</i>	927-632-8	1,9 - 3	R66, Xn R65	Asp. Tox. 1 H304
<i>Reg. no.</i>	01-2119457736-27-XXXX			
HYDROCARBURES, C10-C13, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES.				
<i>EC</i>	918-481-9	1 - 2	R66, Xn R65	Asp. Tox. 1 H304
<i>Reg. no.</i>	01-2119457273-39-XXXX			
TRIMETILOLPROPANO TRILETILACRILATO				
<i>CAS</i>	3290-92-4	0,9 - 2	N R51/53	Aquatic Chronic 2 H411
<i>EC</i>	221-950-4			
<i>Reg. no.</i>	01-2119542176-41-XXXX			
Zirconium 2-ethylhexanoate				
<i>CAS</i>	22464-99-9	0,9 - 2	Repr. Cat. 3 R63	Repr. 2 H361d
<i>EC</i>	245-018-1			
<i>Reg. no.</i>	01-2119979088-21-XXXX			
2-BUTANONE OXIME				
<i>CAS</i>	96-29-7	0,4 - 0,7	Xi R41, Xi R43, Xn R21, Carc. Cat. 3 R40	Carc. 2 H351, Acute Tox. 4 H312, Eye Dam. 1 H318,
<i>EC</i>	202-496-6			Skin Sens. 1 H317
<i>INDEX</i>	616-014-00-0			
<i>Reg. no.</i>	01-2119539477-28-XXXX			

**CROMOLOGY ITALIA S.p.A.****Vulkeol HS**MAX
Revision nr.1
Dated 29/5/2015
Printed on 1/7/2015
Page n. 4 / 19

EN

SECTION 3. Composition/information on ingredients ... / >>**1-METHOXY-2-PROPANOL**

CAS 107-98-2 0,4 - 0,7 R10, R67 Flam. Liq. 3 H226, STOT SE 3 H336
EC 203-539-1
INDEX 603-064-00-3
Reg. no. 01-2119457435-35-XXXX

XYLENE (MIXTURE OF ISOMERS)

CAS 1330-20-7 0,2 - 0,3 R10, Xi R38, Xn R20/21 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332,
EC 215-535-7 Skin Irrit. 2 H315, Nota C
INDEX 601-022-00-9
Reg. no. 01-2119488216-32-XXXX

COBALT SALTS OF FATTY ACIDS

CAS 136-52-7 0,1 - 0,2 N R50/53, Xi R36, Xi R43, Repr. Cat. 3 R62 Repr. 2 H361f, Eye Irrit. 2 H319, Skin Sens. 1 H317,
EC 205-250-6 Aquatic Acute 1 H400, Aquatic Chronic 1 H410
Reg. no. 01-2119524678-29-XXXX

ETHANEDIOL

CAS 107-21-1 0,00 - 0,1 Xn R22 Acute Tox. 4 H302
EC 203-473-3
INDEX 603-027-00-1
Reg. no. 01-2119456816-28-XXXX

ETHYLBENZENE

CAS 100-41-4 0,00 - 0,1 F R11, Xn R20, Xn R48/20, Xn R65 Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304,
EC 202-849-4 STOT RE 2 H373
INDEX 601-023-00-4
Reg. no. 01-2119489370-35-XXXX

SODIUM DIOCTYLSULPHOSUCCINATE

CAS 577-11-7 0,00 - 1 Xi R37/38, Xi R41, Xn R22 Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315,
EC 209-406-4 STOT SE 3 H335
Reg. no. 01-2119491296-29-XXXX

2-METHOXY-1-METHYLETHYL ACETATE

CAS 108-65-6 0,00 - 0,1 R10 Flam. Liq. 3 H226
EC 203-603-9
INDEX 607-195-00-7
Reg. no. 01-2119475791-29-XXXX

CHROMIUM OXIDE (III)

68,42% metallic element
CAS 1308-38-9 0,00 - 5
EC 215-160-9
Reg. no. 01-2119433951-39-XXXX
Substance with a community workplace exposure limit.

Xn= HARMFUL, Xi= IRRITANT, N= DANGEROUS FOR THE ENVIRONMENT, F= HIGHLY FLAMMABLE

Note: Upper limit is not included into the range

The full wording of the Risk (R) and 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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

**Vulkeol HS****SECTION 4. First aid measures ... / >>****4.2. Most important symptoms and effects, both acute and delayed**

For symptoms and effects caused by the contained substances, see chap. 11.

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**

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

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.

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. 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. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**Vulkeol HS****SECTION 6. Accidental release measures** ... / >>

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. 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. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. 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:

United Kingdom

EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Éire Code of Practice Chemical Agent Regulations 2011.

OEL EU Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.

TLV-ACGIH

ACGIH 2012

COBALT SALTS OF FATTY ACIDS**Threshold Limit Value**

Type	Country	TWA/8h mg/m ³ ppm	STEL/15min mg/m ³ ppm
TLV (ACGIH 9)		0,02	

Zirconium 2-ethylhexanoate**Threshold Limit Value**

Type	Country	TWA/8h mg/m ³ ppm	STEL/15min mg/m ³ ppm
TLV-ACGIH		5	10

Vulkeol HS
SECTION 8. Exposure controls/personal protection ... / >>
XYLENE
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m ³	ppm	mg/m ³	ppm	
WEL	UK	220	50	441	100	
OEL	IRL	221	50	442	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Predicted no-effect concentration - PNEC

Normal value for the terrestrial compartment	2.31	mg/kg
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 water, intermittent release	0.327	mg/l
Normal value for marine water sediment	12.46	mg/kg
Normal value of STP microorganisms	6.58	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,6 mg/l				
Inhalation				14,8 mg/mc	289 mg/kg			77 mg/kg
Skin				108 mg/kg				180 mg/kg

HYDROCARBURES, C14-C18, N-ALCANES, ISOALCANES, CYCLIQUES, <2%
AROMATIQUES
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m ³	ppm	mg/m ³	ppm
TLV (ACGIH)		1200	133		

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, <2% aromatic
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m ³	ppm	mg/m ³	ppm
TLV (CEFIC)		1200	197		

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				125 mg/kg				
Inhalation				900 mg/mc				871 mg/mc
Skin				125 mg/kg				208 mg/kg

**Vulkeol HS****SECTION 8. Exposure controls/personal protection ... / >>****HYDROCARBURES, C10-C13, N-ALCANES, ISOALCANES, CYCLIQUES, <2%
AROMATIQUES.****Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV (ACGIH)		1200	184		

XYLENE (MIXTURE OF ISOMERS)**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
WEL	UK	220	50	441	100	
OEL	IRL	221	50	442	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

CROMIUM OXIDE (III)**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		0,5			

TALC**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	UK	1			
OEL	IRL	0,8			
TLV-ACGIH		2			

Vulkeol HS
SECTION 8. Exposure controls/personal protection ... / >>
TITANIUM DIOXIDE
Threshold Limit Value

Type	Country	TWA/8h mg/m ³	ppm	STEL/15min mg/m ³	ppm
WEL	UK	4			
OEL	IRL	4			
TLV-ACGIH		10			

Predicted no-effect concentration - PNEC

Normal value for the terrestrial compartment	> 100	mg/kg
Normal value in fresh water	> 1	mg/l
Normal value in marine water	0.127	mg/l
Normal value for fresh water sediment	> 1000	mg/kg
Normal value for marine water sediment	> 100	mg/kg
Normal value of STP microorganisms	100	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				700 mg/kg p.c.				
Inhalation							10 mg/mc	
Skin								

2-METHOXY-1-METHYLETHYL ACETATE
Threshold Limit Value

Type	Country	TWA/8h mg/m ³	ppm	STEL/15min mg/m ³	ppm	
WEL	UK	274	50	548	100	
OEL	IRL	275	50	550	100	SKIN
OEL	EU	275	50	550	100	SKIN

ETHYLBENZENE
Threshold Limit Value

Type	Country	TWA/8h mg/m ³	ppm	STEL/15min mg/m ³	ppm	
WEL	UK	441	100	552	125	SKIN
OEL	IRL	442	100	884	200	SKIN
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH		87	20			

ETHANEDIOL
Threshold Limit Value

Type	Country	TWA/8h mg/m ³	ppm	STEL/15min mg/m ³	ppm	
WEL	UK	52	20	104	40	
OEL	IRL	52	20	104	40	SKIN
OEL	EU	52	20	104	40	SKIN
TLV-ACGIH				100(C)		

Vulkeol HS
SECTION 8. Exposure controls/personal protection ... / >>
1-METHOXY-2-PROPANOL
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m ³	ppm	mg/m ³	ppm	
WEL	UK	375	100	560	150	SKIN
OEL	IRL	375	100	568	150	
OEL	EU	375	100	568	150	SKIN
TLV-ACGIH		369	100	553	150	

2-BUTANONE OXIME
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m ³	ppm	mg/m ³	ppm
OEL	IRL	10	3	33	10

(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 protection equipment, make sure that the workplace is well aired through effective local aspiration. Personal protection equipment must comply with the rules in force indicated below.

HAND PROTECTION

Protect hands with category II (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in PVC, neoprene, nitril or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves` limit depends on the duration of exposure.

EYE PROTECTION

Wear protective airtight goggles (ref. standard EN 166).

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN ISO 20344). Wash body with soap and water after removing overalls.

RESPIRATORY PROTECTION

If the threshold value (if available) for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company`s prevention and protection service is exceeded, wear a mask with an B or universal filter, the class (1, 2 or 3) of which must be chosen according to the limit concentration of use (ref. standard EN 14387).

The use of respiratory tract protection equipment, such as masks like that indicated above, is necessary to reduce worker exposure in the absence of technical measures. The protection provided by masks is in any case limited.

If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

An emergency eye washing and shower system must be provided.

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

Vulkeol HS**SECTION 8. Exposure controls/personal protection ... / >>****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	Paste
Colour	Various colours
Odour	Like hydrocarbons
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	44 °C
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	0,3 kPa 20°C
Vapour density	>1
Relative density	1,150 kg/l 20°C
Solubility	Trascurabile in acqua
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	>60s (ISO cup 6)
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2004/42/EC) : 300,00 g/litre

SECTION 10. Stability and reactivity**10.1. Reactivity**

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

1-METHOXY-2-PROPANOL ACETATE: stable but with the air it may slowly develop peroxides that explode with an increase in temperature.

ETHANEDIOL: can absorb atmospheric humidity up to twice its own weight. Decomposes at temperatures over 200°C.

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

2-BUTANONE OXIME: 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.

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.

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.

Vulkeol HS**SECTION 10. Stability and reactivity** ... / >>

1-METHOXY-2-PROPANOL ACETATE: may react violently with oxidising agents and strong acids and alkaline metals.

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

ETHANEDIOL: risk of explosion on contact with: perchloric acid. Can react dangerously with: chlorosulphuric acid, sodium hydroxide, sulphuric acid, phosphorus pentasulphide, chromium (III) oxide, chromyl chloride, potassium perchlorate, potassium dichromate, sodium peroxide, aluminium. Forms explosive mixtures with the air.

1-METHOXY-2-PROPANOL: can react dangerously with strong oxidising agents and strong acids.

2-BUTANONE OXIME: thermal decomposition can have an explosive course. It reacts violently with strong oxidising agents and acids. Above the flash point (69°C), explosive mixtures can form with air.

10.4. Conditions to avoid

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

1-METHOXY-2-PROPANOL ACETATE: store in an inert atmosphere, sheltered from moisture because it hydrolyses easily.

ETHANEDIOL: avoid exposure to sources of heat and naked flames.

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

10.5. Incompatible materials

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

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

2-BUTANONE OXIME: oxidising substances and strong acids.

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.

ETHYLBENZENE: methane, styrene, hydrogen, ethane.

ETHANEDIOL: hydroxyacetaldehyde, glyoxal, acetaldehyde, methane, formaldehyde, carbon monoxide, hydrogen.

2-BUTANONE OXIME: nitrogen oxides, carbon oxides.

SECTION 11. Toxicological information**11.1. Information on toxicological effects**

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.

This product contains highly volatile substances, which may cause serious depression of the central nervous system (CNS) and have negative effects, such as drowsiness, dizziness, slow reflexes, narcosis.

This product may have a degreasing action on the skin, producing dryness and chapped skin after repeated exposure.

This product contains sensitizing substance/s and may cause allergic reactions.

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

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

1-METHOXY-2-PROPANOL ACETATE: 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

Vulkeol HS**SECTION 11. Toxicological information** ... / >>

irritation on direct contact. No chronic effects have been reported in man.

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.

ETHANEDIOL: following ingestion it initially stimulates the CNS; later on depression results. Renal damage with anuria and uremia may occur. Symptoms of over exposure are: vomiting, somnolence, difficulty in breathing, convulsions. The lethal dose in man is approximately 1.4 l/kg. The way of entry is inhalation and ingestion.

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.

TRIMETILOLPROPANO TRILETILACRILATO

LD50 (Oral) >2.000 mg/Kg Rat
LD50 (Dermal) >2.000 mg/Kg Rat

XYLENE

LD50 (Oral) 5.627 mg/kg Rat
LD50 (Dermal) >5.000 ml/kg Rabbit
LC50 (Inhalation) 6.700 ppm/4h Rat

HYDROCARBURES, C14-C18, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES

LD50 (Oral) >5.000 mg/kg bw rat
LD50 (Dermal) >2.000 mg/kg bw rat
LC50 (Inhalation) >5.000 mg/m³ 8h rat

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, <2% aromatic

LD50 (Oral) >5.000 mg/kg Rat
LD50 (Dermal) >5.000 mg/kg Rabbit
LC50 (Inhalation) >5.000 mg/m³(8h/hs) Rat

HYDROCARBURES, C10-C13, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES.

LD50 (Oral) >5.000 mg/kg bw rat
LD50 (Dermal) >2.000 mg/kg bw rat
LC50 (Inhalation) >5.000 mg/m³ 8h rat

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3.523 mg/kg Rat
LD50 (Dermal) 4.350 mg/kg Rabbit
LC50 (Inhalation) 26 mg/l/4h Rat

2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Oral) 8.530 mg/kg Rat
LD50 (Dermal) >5.000 mg/kg Rat

ETHYLBENZENE

LD50 (Oral) 3.500 mg/kg Rat
LD50 (Dermal) 15.354 mg/kg Rabbit
LC50 (Inhalation) 17,2 mg/l/4h Rat

Vulkeol HS**SECTION 11. Toxicological information** ... / >>**ETHANEDIOL**

LD50 (Oral)	>2.000 mg/kg Rat
LD50 (Dermal)	9.530 mg/kg Rabbit

1-METHOXY-2-PROPANOL

LD50 (Oral)	5.300 mg/kg Rat
LD50 (Dermal)	13.000 mg/kg Rabbit
LC50 (Inhalation)	54,6 mg/l/4h Rat

2-BUTANONE OXIME

LD50 (Oral)	2.400 mg/kg Rat
LD50 (Dermal)	>1.000 mg/kg Rabbit
LC50 (Inhalation)	20 mg/l/4h Rat

SECTION 12. Ecological information

Non aromatic mineral water spirits tends to be distributed exclusively in the air where it is photodegradable. The small amount that remains in the water tends to deposit at the bottom and is biodegraded; it is thus not bioaccumulated by fish. In the soil the substance remains absorbed and is unable to reach the subterranean layers.

12.1. Toxicity

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

COBALT SALTS OF FATTY ACIDS

EC50 - for Algae / Aquatic Plants	0,528 mg/l alga
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TRIMETILOLPROPANO TRILETILACRILATO

LC50 - for Fish	2 mg/l Oncorhynchus mykiss
EC50 - for Crustacea	9,22 mg/l Daphnia
EC50 - for Algae / Aquatic Plants	3,88 mg/l OECD 201

XYLENE

LC50 - for Fish	2,6 mg/l Oncorhynchus mykiss
Chronic NOEC for Fish	>1,3 mg/l Oncorhynchus mykiss
Chronic NOEC for Crustacea	1,57 mg/l Daphia Magna
Chronic NOEC for Algae / Aquatic Plants	0,44 mg/l Pseudokirchneriella subcapitata

HYDROCARBURES, C14-C18, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES

LC50 - for Fish	>1.000 mg/l Oncorhynchus mykiss OECD 203
EC50 - for Crustacea	>1.000 mg/l Daphnia magna OECD 202
EC50 - for Algae / Aquatic Plants	>1.000 mg/l Pseudokirchneriella subcapitata OECD 201

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, <2% aromatic

LC50 - for Fish	>1.000 mg/l Oncorhynchus mykiss
EC50 - for Crustacea	>1.000 mg/l Daphina magna
EC50 - for Algae / Aquatic Plants	>1.000 mg/l Pseudokirchneriella subcapitata

Vulkeol HS**SECTION 12. Ecological information** ... / >>

HYDROCARBURES, C10-C13, N-ALCANES, ISOALCANES, CYCLIQUES, <2% AROMATIQUES.

LC50 - for Fish	>1.000 mg/l Oncorthynchus mykiss OECD 203
EC50 - for Crustacea	>1.000 mg/l Daphnia magna OECD 202
EC50 - for Algae / Aquatic Plants	>1.000 mg/l Pseudokirchneriella subcapitata OECD 201

12.2. Persistence and degradability

ETHANEDIOL: easily biodegradable.

12.3. Bioaccumulative potential

ETHANEDIOL: no appreciable bioaccumulation potential (log Ko/w 1-3).

XYLENE

BCF	25,9
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12.4. Mobility in soil

ETHANEDIOL: very mobile in soil.

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.

Avoid littering. Do not contaminate soil, sewers and waterways.

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

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations.

These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Vulkeol HS**SECTION 14. Transport information** ... / >>>**Road and rail transport:**

ADR/RID Class: 3 UN: 1263
Packing Group: III
Label: 3
Nr. Kemler: 30
Limited Quantity: 5 L
Tunnel restriction code: D/E
Proper Shipping Name: Paint or paint related material



The product, if packaged in packages of less than 450 litres, is not subject to ADR regulations as stated in 2.2.3.1.5.

Carriage by sea (shipping):

IMO Class: 3 UN: 1263
Packing Group: III
Label: 3
EMS: F-E, S-E
Marine Pollutant: NO
Proper Shipping Name: Paint or paint related material



The product, if packaged in packages of less than 30 litres, is not subject to obligations relating to marking, labelling and package testing in accordance with 2.3.2.5 of the IMDG CODE.

Transport by air:

IATA: 3 UN: 1263
Packing Group: III
Label: 3
Cargo:
Packaging instructions: 366 Maximum quantity: 220 L
Pass.:
Packaging instructions: 355 Maximum quantity: 60 L
Proper Shipping Name: Paint or paint related material

**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Seveso category

6

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

Product

Point 3-40

Substances in Candidate List (Art. 59 REACH)

None

Substances subject to authorisation (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.

**Vulkeol HS****SECTION 15. Regulatory information** ... / >>

VOC (Directive 2004/42/EC) :

Interior/exterior trim and cladding paints for wood, metal or plastic.

VOC given in g/litre of product in a ready-to-use condition :

Limit value: 300 (2010)

VOC of product : 300,00

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
Carc. 2	Carcinogenicity, category 2
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
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

Carc.Cat. 3	Carcinogenicity, category 3
Repr.Cat. 3	Reproductive toxicity, fertility, category 3
Repr.Cat. 3	Reproductive toxicity, development, category 3
R10	FLAMMABLE.
R11	HIGHLY FLAMMABLE.
R20	HARMFUL BY INHALATION.

SECTION 16. Other information ... / >>

R20/21	HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.
R21	HARMFUL IN CONTACT WITH SKIN.
R22	HARMFUL IF SWALLOWED.
R36	IRRITATING TO EYES.
R36/37/38	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
R37/38	IRRITATING TO RESPIRATORY SYSTEM AND SKIN.
R38	IRRITATING TO SKIN.
R40	LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
R41	RISK OF SERIOUS DAMAGE TO EYES.
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT.
R48/20	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R51/53	TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R52/53	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R62	POSSIBLE RISK OF IMPAIRED FERTILITY.
R63	POSSIBLE RISK OF HARM TO THE UNBORN CHILD.
R65	HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.
R66	REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.
R67	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS.

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

Vulkeol HS**SECTION 16. Other information** ... / >>

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. Regulation (EC) 618/2012 (III Atp. CLP) of the European Parliament
9. The Merck Index. - 10th Edition
10. Handling Chemical Safety
11. Niosh - Registry of Toxic Effects of Chemical Substances
12. INRS - Fiche Toxicologique (toxicological sheet)
13. Patty - Industrial Hygiene and Toxicology
14. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
15. ECHA website

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.