

Valve Action® Paint Markers, CERTIFIED Valve Action® Paint Markers

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 16/04/2015

Revision date:

Version: 1.0

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

1.1. Product identifier

Product form : Article
 Trade name : Valve Action® Paint Markers, CERTIFIED Valve Action® Paint Markers
 Synonyms : Valve Action® Paint Marker White, Yellow, Black, Blue, Green, Aluminum, Purple, Light Blue, Light Green, Fluorescent Yellow, Fluorescent Green, Fluorescent Orange, Fluorescent Pink, Invisible UV, Red, Orange, Pink, Brown, Gold
 CERTIFIED Valve Action® Paint Marker White, Yellow, Red

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

1.2.1. Relevant identified uses

Main use category : Professional use
 Use of the substance/mixture : Marking.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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



1.4. Emergency telephone number

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

EU Member State	Officieel adviesorgaan	Adres	Noodnummer
AUSTRIA	Vergiftungsinformationszentrale (Poisons Information Centre)	Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien	+43 1 406 43 43
BELARUS	The Belarus Republican Poisons Centre	Kizhevatova str. 58 220115 Minsk	+375 (0)17 201 9158
BELGIUM	Centre Anti-Poisons/Antigifocentrum c/o Hôpital Central de la Base - Reine Astrid	Rue Bruyn 1 B -1120 Bruxelles/Brussel	+32 70 245 245
BULGARIA	Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov"	21 Tottleben Boulevard 1606 SOFIA	+359 2 9154 409
CROATIA	Poisons Control Centre Institute of Medical Research & Occupational Health	Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb	+385 1 234 8342
CZECH REPUBLIC	Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University	Na Bojišti 1 120 00 Praha 2	+42 2 2491 9293 +42 2 2491 5402
DENMARK	Giftlinjen Bispebjerg Hospital	Bispebjerg Bakke 23, 60, 1 DK-2400 København NV	+45 82 12 12 12 +45 35 31 55 55
ESTONIA	Mürgistusteabekeskus	Gonsiori 29 15027 Tallinn	+372 626 93 90
FINLAND	Myrkytystietokeskus	P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki	+358 9 471 977
FRANCE	ORFILA		+33 1 45 42 59 59
GERMANY	Berliner Betrieb für Zentrale Gesundheitliche Aufgaben	Oranienburger Strasse 285 13437 Berlin	+49 30 19240
GERMANY	Informations und Beratungszentrum für Vergiftungsfälle	Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar	+49 6841 19240
GERMANY	Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen	Langenbeckstrasse 1 55131 Mainz	+49 6131 19240
GREECE	Poisons Information Centre	11527 Athens	+30 10 779 3777

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

EUH phrases : EUH210 - Safety data sheet available on request

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-Methoxy-2-propanol	(CAS No) 107-98-2 (EC no) 203-539-1 (EC index no) 603-064-00-3	40 – 75	Flam. Liq. 3, H226 STOT SE 3, H336
aluminium powder (stabilised)	(CAS No) 7429-90-5 (EC no) 231-072-3 (EC index no) 013-001-00-1	0 – 65	Flam. Sol. 1, H228 Water-react. 2, H261
Titanium dioxide	(CAS No) 13463-67-7 (EC no) 236-675-5	1 – 25	Not classified
zinc sulphide	(CAS No) 1314-98-3 (EC no) 215-251-3	0 – 25	Not classified

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanol	(CAS No) 64-17-5 (EC no) 200-578-6 (EC index no) 603-002-00-5	5 – 20	Flam. Liq. 2, H225
2-methoxy-1-methylethyl acetate	(CAS No) 108-65-6 (EC no) 203-603-9 (EC index no) 607-195-00-7	0.01 – 2	Flam. Liq. 3, H226
4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxynaphthalene-2-carboxamide, C.I. Pigment Red 170	(CAS No) 2786-76-7 (EC no) 220-509-3	0 – 5	Skin Sens. 1, H317 (Naphthol <1%)
Isopropanol	(CAS No) 67-63-0 (EC no) 200-661-7 (EC index no) 603-117-00-0	0 – 5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Ethyl acetate	(CAS No) 141-78-6 (EC no) 205-500-4 (EC index no) 607-022-00-5	0.1 – 3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Carbon black	(CAS No) 1333-86-4 (EC no) 215-609-9	0 – 3	Carc. 2, H351
4-Methyl-7-diethylaminocoumarin	(CAS No) 91-44-1 (EC no) 202-068-9	0 – 3	Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Aluminum hydroxide	(CAS No) 21645-51-2 (EC no) 244-492-7	0.01 – 2	Not classified
propyl acetate	(CAS No) 109-60-4 (EC no) 203-686-1 (EC index no) 607-024-00-6	0 – 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Butyl acetate	(CAS No) 123-86-4 (EC no) 204-658-1 (EC index no) 607-025-00-1	< 1	Flam. Liq. 3, H226 STOT SE 3, H336
(2-Methoxymethylethoxy)-propanol	(CAS No) 34590-94-8 (EC no) 252-104-2	< 1	Not classified
Aluminum oxide	(CAS No) 1344-28-1 (EC no) 215-691-6	< 1	Not classified
2-methoxypropyl acetate	(CAS No) 70657-70-4 (EC no) 274-724-2 (EC index no) 607-251-00-0	< 0.1	Flam. Liq. 3, H226 Repr. 1B, H360D STOT SE 3, H335
barium sulfate	(CAS No) 7727-43-7 (EC no) 231-784-4	< 0.1	Not classified
Toluene	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3	< 0.1	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.
- First-aid measures after ingestion : Do NOT induce vomiting. Get medical advice/attention.

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

- Symptoms/injuries after inhalation : May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : May cause moderate irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry chemical. Inert gas. Foam. Water spray. Water fog.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapour. Burning produces irritating, toxic and noxious fumes.
Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂). Hydrocarbon.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses. Eliminate all ignition sources if safe to do so.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus. EN469.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
Emergency procedures : Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Eliminate all ignition sources. Stop the flow of material, if this is without risk.
Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid all eye and skin contact and do not breathe vapour and mist. Use only outdoors or in a well-ventilated area.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible products : Strong oxidizers.
Incompatible materials : Heat sources.
Heat and ignition sources : Keep away from heat, sparks and flame.
Prohibitions on mixed storage : Keep away from incompatible materials.
Storage area : Store in dry, cool, well-ventilated area.

7.3. Specific end use(s)

Marking.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1-Methoxy-2-propanol (107-98-2)		
EU	IOELV TWA (mg/m ³)	375 mg/m ³
EU	IOELV TWA (ppm)	100 ppm
EU	IOELV STEL (mg/m ³)	568 mg/m ³
EU	IOELV STEL (ppm)	150 ppm
EU	Notes	Skin

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1-Methoxy-2-propanol (107-98-2)		
Austria	MAK (mg/m ³)	187 mg/m ³
Austria	MAK (ppm)	50 ppm
Austria	MAK Short time value (mg/m ³)	187 mg/m ³
Austria	MAK Short time value (ppm)	50 ppm
Austria	Remark (AT)	(gemessen als Momentanwert), (H)
Belgium	Limit value (mg/m ³)	375 mg/m ³
Belgium	Limit value (ppm)	100 ppm
Belgium	Short time value (mg/m ³)	568 mg/m ³
Belgium	Short time value (ppm)	150 ppm
Belgium	Remark (BE)	D
Czech Republic	Expoziční limity (PEL) (mg/m ³)	270 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	73.17 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	550 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	149.05 ppm
Czech Republic	Remark (CZ)	D
Denmark	Grænseværdie (langvarig) (mg/m ³)	185 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	50 ppm
Denmark	Grænseværdie (kortvarig) (mg/m ³)	370 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	100 ppm
Finland	HTP-arvo (8h) (mg/m ³)	370 mg/m ³
Finland	HTP-arvo (8h) (ppm)	100 ppm
Finland	HTP-arvo (15 min)	560 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	150 ppm
Finland	Huomautus (FI)	iho
France	VME (mg/m ³)	188 mg/m ³
France	VME (ppm)	50 ppm
France	VLE (mg/m ³)	375 mg/m ³
France	VLE (ppm)	100 ppm
France	Note (FR)	Peau
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	370 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	100 ppm
Germany	TRGS 900 Limitation of exposure peaks (mg/m ³)	740 mg/m ³
Germany	TRGS 900 Limitation of exposure peaks (ppm)	200 ppm
Hungary	AK-érték	375 mg/m ³
Hungary	CK-érték	568 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	375 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	100 ppm
Ireland	OEL (15 min ref) (mg/m ³)	568 mg/m ³
Ireland	OEL (15 min ref) (ppm)	150 ppm
Lithuania	IPRV (mg/m ³)	190 mg/m ³
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m ³)	300 mg/m ³
Lithuania	TPRV (ppm)	75 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	375 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	563 mg/m ³
Netherlands	Remark (MAC)	(H)
Poland	NDS (mg/m ³)	180 mg/m ³
Poland	NDSch (mg/m ³)	360 mg/m ³
Slovakia	NPHV (priemerná) (mg/m ³)	375 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	100 ppm

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1-Methoxy-2-propanol (107-98-2)		
Slovakia	Upozornenie (SK)	(K)
Spain	VLA-ED (mg/m ³)	375 mg/m ³
Spain	VLA-ED (ppm)	100 ppm
Spain	VLA-EC (mg/m ³)	568 mg/m ³
Spain	VLA-EC (ppm)	150 ppm
Spain	Notes	vía dérmica, VLI
Sweden	nivågränsvärde (NVG) (mg/m ³)	190 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	300 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	75 ppm
Sweden	Anmärkning (SE)	H
United Kingdom	WEL TWA (mg/m ³)	375 mg/m ³
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m ³)	560 mg/m ³
United Kingdom	WEL STEL (ppm)	150 ppm
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	180 mg/m ³
Norway	Gjennomsnittsverdier (AN) (ppm)	50 ppm
Norway	Merknader (NO)	H
Switzerland	VME (mg/m ³)	360 mg/m ³
Switzerland	VME (ppm)	100 ppm 20 ppm (urina; fine dell'esposizione / del turno)
Switzerland	VLE (mg/m ³)	720 mg/m ³
Switzerland	VLE (ppm)	200 ppm
Ethyl acetate (141-78-6)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	1080 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	300 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	500 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	150 ppm
Spain	VLA-ED (mg/m ³)	1460 mg/m ³
Spain	VLA-ED (ppm)	400 ppm
United Kingdom	WEL TWA (mg/m ³)	730 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	1460 mg/m ³
Titanium dioxide (13463-67-7)		
Belgium	Remark (BE)	(dioxyde de)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	12 mg/m ³
France	Note (FR)	inhalable aerosol
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³ total inhalable dust 4 mg/m ³ respirable dust
Slovakia	NPHV (priemerná) (mg/m ³)	5 mg/m ³
Spain	VLA-ED (mg/m ³)	10 mg/m ³
Spain	Notes	inhalable aerosol
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³
Sweden	Anmärkning (SE)	total dust, 1
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ inhalable aerosol 4 mg/m ³ respirable aerosol
Switzerland	Remark (CH)	(respirable aerosol)
Aluminum oxide (1344-28-1)		
Austria	MAK (mg/m ³)	10 mg/m ³ (gemessen als einatembarer Aerosolanteil) 5 mg/m ³ (alveolengängiger Anteil)
Austria	MAK Short time value (mg/m ³)	20 mg/m ³ (gemessen als einatembarer Aerosolanteil) max. 2x60 min./Schicht 10 mg/m ³ (alveolengängiger Anteil) max. 2x60 min./Schicht
Belgium	Limit value (mg/m ³)	10 mg/m ³

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Aluminum oxide (1344-28-1)		
Belgium	Remark (BE)	(oxyde d') (en Al)
Denmark	Grænseværdie (langvarig) (mg/m ³)	5 mg/m ³ (total) 2 mg/m ³ (respirabel)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	10 mg/m ³ (total) 4 mg/m ³ (respirabel)
France	VME (mg/m ³)	10 mg/m ³
France	Note (FR)	(respirable aerosol)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	3 mg/m ³
Germany	Remark (TRGS 900)	(gemessen als alveolengängiger Staubanteil)
Hungary	AK-érték	6 mg/m ³
Hungary	Megjegyzések (HU)	(respirable aerosol)
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³ (total inhalable dust) 4 mg/m ³ (respirable dust)
Lithuania	IPRV (mg/m ³)	2 mg/m ³
Lithuania	Remark (LT)	(alveolinė frakcija. Piūrėk IX skyriaus 3 pastabà.)
Poland	NDS (mg/m ³)	2.5 mg/m ³ (dymy, pyl calkowity) 1.2 mg/m ³ (dymy, pyl respirabilny)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovate ³ / ₄ ná frakcia)
Spain	VLA-ED (mg/m ³)	10 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³ (inhalable aerosol) 2 mg/m ³ (respirable aerosol)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ (inhalable aerosol) 4 mg/m ³ (respirable aerosol)
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	10 mg/m ³
Norway	Merknader (NO)	1)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(respirable aerosol)
Aluminum hydroxide (21645-51-2)		
Austria	MAK (ppm)	10 ppm (gemessen als einatembarer Aerosolanteil) 5 ppm (alveolengängiger Anteil)
Austria	MAK Short time value (ppm)	20 ppm (gemessen als einatembarer Aerosolanteil) max. 2x60 min./Schicht 10 ppm (alveolengängiger Anteil) max. 2x60 min./Schicht
Poland	NDS (mg/m ³)	2.5 mg/m ³ dymy, pyl calkowity 1.2 mg/m ³ dymy, pyl respirabilny
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovate ³ / ₄ ná frakcia)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(alveolengängige Fraktion)
Butyl acetate (123-86-4)		
Austria	MAK (mg/m ³)	480 mg/m ³
Austria	MAK (ppm)	100 ppm
Austria	MAK Short time value (mg/m ³)	480 mg/m ³
Austria	MAK Short time value (ppm)	100 ppm
Austria	Remark (AT)	(gemessen als Momentanwert)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	1420 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	300 ppm
Lithuania	IPRV (mg/m ³)	500 mg/m ³
Lithuania	IPRV (ppm)	100 ppm
Lithuania	TPRV (mg/m ³)	700 mg/m ³
Lithuania	TPRV (ppm)	150 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	500 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	100 ppm

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Butyl acetate (123-86-4)		
Spain	VLA-ED (mg/m ³)	724 mg/m ³
Spain	VLA-ED (ppm)	150 ppm
Spain	VLA-EC (mg/m ³)	965 mg/m ³
Spain	VLA-EC (ppm)	200 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	700 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	150 ppm
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	355 mg/m ³
Norway	Gjennomsnittsverdier (AN) (ppm)	75 ppm
2-methoxy-1-methylethyl acetate (108-65-6)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	550 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	100 ppm
Finland	Huomautus (FI)	iho
France	Note (FR)	Peau
Germany	TRGS 900 Limitation of exposure peaks (mg/m ³)	270 mg/m ³
Germany	TRGS 900 Limitation of exposure peaks (ppm)	50 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	275 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	Upozornenie (SK)	(K)
Spain	VLA-ED (mg/m ³)	275 mg/m ³
Spain	VLA-ED (ppm)	50 ppm
Spain	VLA-EC (mg/m ³)	550 mg/m ³
Spain	VLA-EC (ppm)	100 ppm
Spain	Notes	VLI
Sweden	Anmärkning (SE)	H
2-methoxypropyl acetate (70657-70-4)		
Czech Republic	Remark (CZ)	D
Denmark	Grænseværdie (kortvarig) (mg/m ³)	220 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	40 ppm
Germany	TRGS 900 Limitation of exposure peaks (mg/m ³)	224 mg/m ³
Germany	TRGS 900 Limitation of exposure peaks (ppm)	40 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	110 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	Upozornenie (SK)	(K)
Spain	VLA-ED (mg/m ³)	28 mg/m ³
Spain	VLA-ED (ppm)	5 ppm
Spain	VLA-EC (mg/m ³)	220 mg/m ³
Spain	VLA-EC (ppm)	40 ppm
Spain	Notes	TR1B,r
(2-Methoxymethylethoxy)-propanol (34590-94-8)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	600 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	100 ppm
Finland	Huomautus (FI)	iho
France	Note (FR)	Peau
Germany	TRGS 900 Limitation of exposure peaks (mg/m ³)	310 mg/m ³
Germany	TRGS 900 Limitation of exposure peaks (ppm)	50 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	308 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	Upozornenie (SK)	poznámka K
Spain	VLA-ED (mg/m ³)	308 mg/m ³
Spain	VLA-ED (ppm)	50 ppm
Spain	Notes	vía dérmica, VLI

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(2-Methoxymethylethoxy)-propanol (34590-94-8)		
Sweden	Anmärkning (SE)	H
ethanol (64-17-5)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	3800 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	2000 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	960 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	500 ppm
Spain	VLA-ED (mg/m ³)	1910 mg/m ³
Spain	VLA-ED (ppm)	1000 ppm
Spain	Notes	s,
Isopropanol (67-63-0)		
Denmark	Grænseværdie (kortvarig) (mg/m ³)	980 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	400 ppm
Germany	TRGS 903 (BGW)	50 mg/l Aceton (Blut; Expositionsende bzw. Schichtende)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	650 mg/m ³
Netherlands	Grenswaarde TGG 8H (ppm)	250 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	500 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	200 ppm
Spain	VLA-ED (mg/m ³)	500 mg/m ³ VLB, s
Spain	VLA-ED (ppm)	200 ppm VLB, s 40 ppm F, I "(Acetona en orina; Final de la semana, laboral 1)"
Spain	VLA-EC (mg/m ³)	1000 mg/m ³ VLB, s
Spain	VLA-EC (ppm)	400 ppm VLB, s
propyl acetate (109-60-4)		
Austria	Remark (AT)	(gemessen als Momentanwert)
Czech Republic	Remark (CZ)	I
Denmark	Grænseværdie (kortvarig) (mg/m ³)	1250 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	300 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	400 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	100 ppm
Spain	VLA-ED (mg/m ³)	849 mg/m ³
Spain	VLA-ED (ppm)	200 ppm
Spain	VLA-EC (mg/m ³)	1060 mg/m ³
Spain	VLA-EC (ppm)	250 ppm
aluminium powder (stabilised) (7429-90-5)		
Belgium	Limit value (mg/m ³)	1 mg/m ³
Belgium	Remark (BE)	(Aluminium, métal et composés insolubles, fraction alvéolaire)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	4 mg/m ³ (respirabel) 10 mg/m ³ (total)
Finland	HTP-arvo (8h) (mg/m ³)	2 mg/m ³
Finland	Huomautus (FI)	(Alumiini, liukoiset yhdisteet)
France	VME (mg/m ³)	5 mg/m ³ (pulvérulent) 10 mg/m ³ (metal)
Germany	TRGS 903 (BGW)	200 µg/l
Germany	Remark (TRGS 903)	Aluminium (Urin; Expositionsende bzw. Schichtende)
Hungary	Megjegyzések (HU)	(respirábilis por)
Ireland	OEL (8 hours ref) (mg/m ³)	1 mg/m ³
Ireland	Notes (IE)	(respirable dust)
Lithuania	IPRV (mg/m ³)	2 mg/m ³ (alveoline frakcija) 1 mg/m ³ (Aliuminis (metalas) ir jo tirpus junginiai, kaip Al) 5 mg/m ³ (ákvepiamoji frakcija)

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aluminium powder (stabilised) (7429-90-5)		
Netherlands	Grenswaarde TGG 8H (mg/m ³)	10 mg/m ³
Poland	NDS (mg/m ³)	2.5 mg/m ³ (dymy, pyl całkowity) 1.2 mg/m ³ (dymy, pyl respirabilny)
Slovakia	NPHV (priemerná) (mg/m ³)	2 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	60 µg/g creatinine (Hlinik, M,a) 25 µg/g creatinine (Celkový, M,,d) 150 µg/g creatinine (Celkový,M,b)
Spain	VLA-ED (mg/m ³)	10 mg/m ³ (inhalable aerosol) 5 mg/m ³ (respirable aerosol)
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (Aluminium, lösliga föreningar, som Al) 5 mg/m ³ (totaldamm, som Al) 2 mg/m ³ (respirabelt damm, som Al)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ (inhalable dust) 4 mg/m ³ (respirable dust)
Norway	Merknader (NO)	(Aluminiumpulver, pyroteknikk)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(alveolengängiger Staub)
Carbon black (1333-86-4)		
Belgium	Limit value (mg/m ³)	3.5 mg/m ³
Denmark	Grænseværdie (langvarig) (mg/m ³)	3.5 mg/m ³
Denmark	Anmærkninger (DK)	K
Finland	HTP-arvo (8h) (mg/m ³)	3.5 mg/m ³
Finland	HTP-arvo (15 min)	7 mg/m ³
France	VME (mg/m ³)	3.5 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	3.5 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	7 mg/m ³
Spain	VLA-ED (mg/m ³)	3.5 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	3 mg/m ³
United Kingdom	Local name	Carbon black
United Kingdom	WEL TWA (mg/m ³)	3.5 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	7 mg/m ³
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	3.5 mg/m ³
zinc sulphide (1314-98-3)		
Lithuania	IPRV (mg/m ³)	5 mg/m ³
barium sulfate (7727-43-7)		
Belgium	Remark (BE)	(sulfate de)
Slovakia	NPHV (priemerná) (mg/m ³)	1.5 mg/m ³ (respirabilná frakcia) 4 mg/m ³ (inhalovateľná frakcia)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ inhalable aerosol 4 mg/m ³ respirable aerosol
Toluene (108-88-3)		
EU	IOELV TWA (mg/m ³)	192 mg/m ³
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m ³)	384 mg/m ³
EU	IOELV STEL (ppm)	100 ppm
EU	Notes	Skin
Denmark	Grænseværdie (kortvarig) (mg/m ³)	188 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	50 ppm
France	Note (FR)	Peau
Germany	TRGS 903 (BGW)	3 mg/l o-Kresol (Urin; bei Langzeitexposition/Expositionsende bzw. Schichtende) 1 mg/l Toluol (Blut; Expositionsende bzw. Schichtende)
Slovakia	NPHV (priemerná) (mg/m ³)	192 mg/m ³ (K)

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Toluene (108-88-3)

Slovakia	NPHV (priemerná) (ppm)	50 ppm (K) 600 ppm (Toluén) 1.5 ppm (O-krezol) 2401 ppm (Kyselina hippurová)
Sweden	Anmärkning (SE)	(B,H)

8.2. Exposure controls

Appropriate engineering controls	: Provide local exhaust ventilation of closed transfer systems to minimize exposures.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: None under normal use. It is a good industrial hygiene practice to minimize skin contact. Wear suitable gloves. rubber. EN 374.
Eye protection	: No special eye protection equipment recommended under normal conditions of use. Eye protection should only be necessary where liquid could be splashed or sprayed. EN 166.
Respiratory protection	: No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of inadequate ventilation wear respiratory protection. Use an approved respirator equipped with oil/mist cartridges. EN 12083.
Consumer exposure controls	: Keep out of reach of children.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Solid marker containing liquid colored paint.
Colour	: Variable.
Odour	: Solvent.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: < 1
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 120 °C
Flash point	: 31 °C
Auto-ignition temperature	: 287 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour
Vapour pressure	: 11.8
Relative vapour density at 20 °C	: No data available
Relative density	: 1 - 1.33
Solubility	: insoluble in water.
Log Pow	: 0.7
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content	: 50 - 60 %
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SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Flammable liquid and vapour.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

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10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May release flammable gases. Burning produces irritating, toxic and noxious fumes. Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

1-Methoxy-2-propanol (107-98-2)	
LD50 oral rat	4016 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight
LC50 inhalation rat (ppm)	> 7000 ppm 6 hr
ATE CLP (oral)	4016.000 mg/kg bodyweight
Ethyl acetate (141-78-6)	
LD50 oral rat	5620 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
LC50 inhalation rat (mg/l)	> 18 mg/l/4h
ATE CLP (oral)	5620.000 mg/kg bodyweight
Titanium dioxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 6.82 mg/l/4h
Aluminum oxide (1344-28-1)	
LD50 oral rat	> 15900 mg/kg
LC50 inhalation rat (mg/l)	7.6 mg/l/4h
ATE CLP (vapours)	7.600 mg/l/4h
ATE CLP (dust,mist)	7.600 mg/l/4h
Butyl acetate (123-86-4)	
LD50 oral rat	10760 mg/kg
LD50 dermal rabbit	> 14112 mg/kg
LC50 inhalation rat (mg/l)	> 21 mg/l/4h
ATE CLP (oral)	10760.000 mg/kg bodyweight
2-methoxy-1-methylethyl acetate (108-65-6)	
LD50 oral rat	8532 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (ppm)	4345 ppm 6 h
ATE CLP (oral)	8532.000 mg/kg bodyweight
2-methoxypropyl acetate (70657-70-4)	
LC50 inhalation rat (ppm)	2700 ppm 6 h
4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxynaphthalene-2-carboxamide, C.I. Pigment Red 170 (2786-76-7)	
LD50 oral rat	> 15000 mg/kg
LC50 inhalation rat (mg/l)	> 1580 mg/m ³ 4 h
(2-Methoxymethylethoxy)-propanol (34590-94-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 19020 mg/kg
LC50 inhalation rat (mg/l)	> 1667 mg/l/4h
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 1667 mg/l/4h
ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
LC50 inhalation rat (mg/l)	133.8 mg/l/4h
ATE CLP (oral)	10470.000 mg/kg bodyweight
ATE CLP (vapours)	133.800 mg/l/4h
ATE CLP (dust,mist)	133.800 mg/l/4h

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Isopropanol (67-63-0)	
LD50 oral rat	5840 mg/kg
LD50 dermal rabbit	16.4 ml/kg
LC50 inhalation rat (ppm)	> 10000 ppm/4h
ATE CLP (oral)	5840.000 mg/kg bodyweight

propyl acetate (109-60-4)	
LD50 oral rat	8700 mg/kg
LD50 dermal rabbit	> 17800 mg/kg
LC50 inhalation rat (mg/l)	32 mg/l/4h
ATE CLP (oral)	8700.000 mg/kg bodyweight
ATE CLP (vapours)	32.000 mg/l/4h
ATE CLP (dust,mist)	32.000 mg/l/4h

aluminium powder (stabilised) (7429-90-5)	
LD50 oral rat	> 15900 mg/kg
LC50 inhalation rat (mg/l)	> 2.3 mg/l/4h No mortality observed in this study.

Carbon black (1333-86-4)	
LD50 oral rat	> 8000 mg/kg
LC50 inhalation rat (mg/l)	> 4.6 mg/m ³ 4 h

zinc sulphide (1314-98-3)	
LD50 oral rat	> 15000 mg/kg
LC50 inhalation rat (mg/l)	> 5410 mg/m ³ read-across Zinc

4-Methyl-7-diethylaminocoumarin (91-44-1)	
LD50 oral rat	> 5000 mg/kg
ATE CLP (dermal)	1100.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h

barium sulfate (7727-43-7)	
LD50 oral rat	307 g/kg
LD50 dermal rat	> 2000 mg/kg
ATE CLP (oral)	307000.000 mg/kg bodyweight

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg EU Method B.1 (Acute Toxicity (Oral))
LC50 inhalation rat (mg/l)	> 20 mg/l/4h OECD Guideline 403 (Acute Inhalation Toxicity)
ATE CLP (oral)	5580.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified.

Titanium dioxide (13463-67-7)	
NOAEL (chronic, oral, animal/male, 2 years)	5 mg/kg bodyweight rat

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

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified.
May cause drowsiness or dizziness

Specific target organ toxicity (repeated exposure) : Not classified

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

Aspiration hazard : Not classified

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SECTION 12: Ecological information

12.1. Toxicity

1-Methoxy-2-propanol (107-98-2)	
LC50 fish 1	20800 mg/l
EC50 Daphnia 1	23300 mg/l
ErC50 (algae)	> 1000 mg/l

Ethyl acetate (141-78-6)	
LC50 fish 1	220 mg/l
EC50 Daphnia 1	1200 mg/l
NOEC chronic fish	< 9.35 mg/l

Aluminum oxide (1344-28-1)	
EC50 Daphnia 1	> 1470 mg/l
NOEC (acute)	> 50 mg/l

2-methoxy-1-methylethyl acetate (108-65-6)	
LC50 fish 1	100 - 180 mg/l
EC50 Daphnia 1	> 500 mg/l 48 h
ErC50 (algae)	> 1000 mg/l

4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxynaphthalene-2-carboxamide, C.I. Pigment Red 170 (2786-76-7)	
LC50 fish 1	> 500 mg/l 96 h
EC50 Daphnia 1	> 110 mg/l 48 h

(2-Methoxymethylethoxy)-propanol (34590-94-8)	
LC50 fish 1	> 1000 mg/l <i>Poecilia reticulata</i>
ErC50 (algae)	> 1000 mg/l

ethanol (64-17-5)	
LC50 fish 1	14200 mg/l
EC50 Daphnia 1	5012 mg/l

Isopropanol (67-63-0)	
LC50 fish 1	10000 mg/l

propyl acetate (109-60-4)	
LC50 fish 1	60 mg/l 96 h
EC50 Daphnia 1	91.5 mg/l 48 h

aluminium powder (stabilised) (7429-90-5)	
LC50 fish 1	> 218.64 mg/l ASTM 2000; test material: aluminium chloride hexahydrate; <i>Pimephales promelas</i>
EC50 Daphnia 1	1.4 mg/l OECD Guideline 202; test material: Aluminium hydroxide
LOEC (acute)	72.89 mg/l
NOEC (acute)	37.2 mg/l

zinc sulphide (1314-98-3)	
LC50 fish 1	> 0.25 mg/l 96 h
EC50 Daphnia 1	> 29 µg/l 48 h

barium sulfate (7727-43-7)	
LC50 fish 1	> 3.5 mg/l 96 h
EC50 Daphnia 1	14500 µg/l 48 h

Toluene (108-88-3)	
LC50 fish 1	5.5 mg/l
EC50 Daphnia 2	3.78 mg/l
ErC50 (algae)	134 mg/l
LOEC (chronic)	2.77 mg/l
NOEC chronic fish	1.39 mg/l
NOEC chronic crustacea	0.74 mg/l

12.2. Persistence and degradability

1-Methoxy-2-propanol (107-98-2)	
Persistence and degradability	Readily biodegradable.
Biodegradation	96 % 28 d

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Ethyl acetate (141-78-6)	
Persistence and degradability	Readily biodegradable.
2-methoxy-1-methylethyl acetate (108-65-6)	
Persistence and degradability	Readily biodegradable.
Biodegradation	89 % 10 d
4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxynaphthalene-2-carboxamide, C.I. Pigment Red 170 (2786-76-7)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	0 % 28 d
(2-Methoxymethylethoxy)-propanol (34590-94-8)	
Persistence and degradability	Readily biodegradable.
ethanol (64-17-5)	
Biodegradation	> 96 % 28 d
Isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable.
propyl acetate (109-60-4)	
Persistence and degradability	Readily biodegradable.
Biodegradation	62 % 5 d
Carbon black (1333-86-4)	
Persistence and degradability	Not readily biodegradable.
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Valve Action® Paint Markers, CERTIFIED Valve Action® Paint Markers	
Log Pow	0.7
1-Methoxy-2-propanol (107-98-2)	
Bioaccumulative potential	Not expected to bioaccumulate.
Ethyl acetate (141-78-6)	
Bioaccumulative potential	Not expected to bioaccumulate.
2-methoxy-1-methylethyl acetate (108-65-6)	
Log Pow	0.43
4-[[4-(aminocarbonyl)phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxynaphthalene-2-carboxamide, C.I. Pigment Red 170 (2786-76-7)	
BCF fish 1	53 l/kg
Log Pow	1.28
ethanol (64-17-5)	
Bioaccumulative potential	Not expected to bioaccumulate.
Isopropanol (67-63-0)	
Bioaccumulative potential	Not expected to bioaccumulate.
propyl acetate (109-60-4)	
Log Pow	1.23
barium sulfate (7727-43-7)	
BCF fish 1	68.4 L/kg
Toluene (108-88-3)	
Bioconcentration factor (BCF REACH)	90
Log Kow	2.73

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Valve Action® Paint Markers, CERTIFIED Valve Action® Paint Markers	
PBT: not yet assessed	
vPvB: not yet assessed	
Component	
Ethyl acetate (141-78-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Additional information : Handle empty containers with care because residual vapours are flammable.
European List of Waste (LoW) code : For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
20 01 27* - paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 1263
UN-No.(IATA) : 1263
UN-No. (IMDG) : 1263
UN-No.(ADN) : 1263

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Paint
Proper Shipping Name (IATA) : Paint
Proper Shipping Name (IMDG) : PAINT
Proper Shipping Name (ADN) : PAINT
Transport document description (ADR) : UN 1263 PAINT, 3, III, (D/E)

14.3. Transport hazard class(es)

Class (ADR) : 3
Classification code (ADR) : F1
Class (IATA) : 3
Class (IMDG) : 3
Class (ADN) : 3
Classification code (ADN) : F1

14.4. Packing group

Packing group (ADR) : III
Packing group (IATA) : III
Packing group (IMDG) : III
Packing group (ADN) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 30
Classification code (ADR) : F1
Orange plates :



Tunnel restriction code (ADR) : D/E
EAC code : •3YE

14.6.2. Transport by sea

EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : A

14.6.3. Inland waterway transport

Carriage prohibited (ADN) : No

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substance on the REACH candidate list

VOC content : 50 - 60 %

15.1.2. National regulations

Germany

Water hazard class (WGK) : 1 - low hazard to waters

WGK remark : Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

according to Regulation (EC) No. 453/2010

Indication of changes:

Revised format.

Abbreviations and acronyms:

	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	PBT: Persistent, Bioaccumulative, Toxic
	TWA: Time Weight Average
	TSCA: Toxic Substances Control Act

Data sources : ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>.
European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

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

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Flam. Sol. 1	Flammable solids, Category 1
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H228	Flammable solid
H261	In contact with water releases flammable gases
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H360D	May damage the unborn child
H361d	Suspected of damaging the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
EUH208	Contains . May produce an allergic reaction
EUH210	Safety data sheet available on request
R10	Flammable
R11	Highly flammable
R15	Contact with water liberates extremely flammable gases
R20/21	Harmful by inhalation and in contact with skin
R36	Irritating to eyes
R36/38	Irritating to eyes and skin
R37	Irritating to respiratory system
R38	Irritating to skin
R40	Limited evidence of a carcinogenic effect
R43	May cause sensitisation by skin contact
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R61	May cause harm to the unborn child
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
F	Highly flammable
Xi	Irritant
Xn	Harmful

LA-CO EU CLP SDS

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