



No smoking.

P280: Wear protective gloves/protective clothing/eye protection/face protection

Reaction:

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses if present and easy to do. continue rinsing.

Hazardous components which must be listed on the label:

CAS	108-10-1	4-Methylpentan-2-one
CAS	71-36-3	Butan-1-ol

Other hazards ---

Further information ---

### 3 Composition/Information on Ingredients

Mixtures

Mixture of solvents in aerosol can

Chemical Name	CAS-No.	EC No.	Registration Number	Classification (67/548/EEC)	Classification (REGULATION (EC) No. 1272/2008)	Conc.(wt%)
4-Methylpentan-2-one	108-10-1	203-550-1	01-2119473980-30-XXXX	F; R11 Xn; R20 Xi; R36/37 R66	Flam. Liq. 2; H225 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335	10-20
n-Butyl-acetate	123-86-4	204-658-1	01-2119485493-29-XXXX	R10 R67 R66	Flam. Liq. 3; H226 STOT SE 3; H336	1-5
Ethyl acetate	141-78-6	205-500-4	01-2119475103-46-XXXX	F; R11 Xi; R36 R67 R66	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H335	1-5
4-Hydroxy-4-methylpentan-2-one	123-42-2	204-626-7	01-2119473975-21-XXXX	Xi; R36	Eye Irrit. 2; H319	1-5
Ethanol	64-17-5	200-578-6	01-2119457610-43-XXXX	F; R11	Flam. Liq. 2; H225	1-5
Butanone	78-93-3	201-159-0	01-2119457290-43-XXXX	F; R11 Xi; R36 R67 R66	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	5-10
Butan-1-ol	71-36-3	200-751-6	01-2119484630-38-XXXX	R10 Xn; R22 Xi; R37/38 R41 R67	Flam. Liq. 3; H226 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 STOT SE 3; H336	1-5
1-Methoxy-2-propanol	107-98-2	203-539-1	01-2119457435-35-XXXX	R10 R67	Flam. Liq. 3; H226 STOT SE 3; H336	1-5
Dimethyl ether	115-10-6	204-065-8	01-2119472128-37-XXXX	F+; R12	Press.Gas Flam. Gas 1; H220	50-60

For the full text of the R-phrases mentioned in this section, see section 16.

For the full text of the H-statements mentioned in this section, see section 16.

### 4 First-Aid measures

[ If in Eyes ]

- Wash eyes with plenty of water and in case of persistence of irritation, get medical attention.

[ If on Skin ]

- Wash with plenty of soap and water, and get medical attention immediately.

[ If Inhaled ]

- If feel unwell because of inhalation, remove to fresh air and keep at rest in a position comfortable for breathing, and call a physician.

[ If Swallowed ]

- Call a physician immediately.

## 5 Fire-Fighting measures

### Suitable extinguishing media

Water[ ] CO2[\*] Foam[\*] Dry chemical[\*] Dry sand[\*]

### Fire fighting method

- Wear proper protective clothes such as heat insulating clothes/gloves/face shield and/or eye protection.
- Use specified extinguishing media.
- Remove combustible material from surrounding area.
- Start fire fighting from windward
- Do not use water as the extinguishing media.

## 6 Accidental release measures

- Avoid contact with skin. Wear appropriate protective equipment (protective gloves, eye/face protection, apron and long sleeved clothes) when handling spill of this product.
- Dispose contaminant and waste in accordance with regulations relative to disposal.
- Eliminate all ignition sources such as heat, sparks, open flames and combustible materials.
- Provide appropriate extinguisher to prepare for fire.
- Do not use steel tools as it may cause impact sparks. Tool should be static free.
- Absorb with dry sand, earth or noncombustible material. In case of large spill, hold back with earth to prevent spreading.
- Avoid release to rivers to prevent effect to environment.

## 7 Handling and storage

### [ Cautions on Handling ]

- May cause poisoning if on skin or inhaled.
- Keep away from ignition sources such as heat/sparks/open flame, and ventilate work area when handling this product.
- Ventilate work area to prevent inhalation of vapor/fume/spray/dust.
- Avoid contact with skin. Wear protective gloves, eye/face protection and long sleeved clothes if necessary.
- If spilled or leaked, wipe with cloth and discard contaminated materials into a container which is filled with water.
- Dip contaminated cloth, spray dust and/or mist into water until they are discarded properly.
- After use, wash hands and gargle mouth thoroughly.
- Do not use this product other than the purpose specified by the manufacturer/supplier.

### [ Cautions on Storage ]

- Keep container tightly closed. Store in cool and ventilated indoor place. Protect from direct sun light.
- Keep reach out of children.
- Keep away from flame or heat sources.

## 8 Exposure Controls/Personal Protection

### [ Facilities Recommendation ]

- All facilities should be explosion proof.
- Prevent vapor from retention by installation of a proper ventilator.
- Ground/bond container or receiving equipment for transportation, mixing and/or transferring of this product.
- Do not locate heat/flame generating facilities close to the work area.
- If spray indoor, install coating facilities so that workers are protected from direct exposure to spray mist, or install adequate ventilation.
- For handling in closed tanks, install appropriate ventilator which secures ventilation to the bottom of the tank.

### [ Protective Equipments ]

- Respiratory Protection: Wear gas mask for organic gas. Wear self-contained breathing apparatus in case of operation in closed areas.
- Eye Protection: Wear goggle type of eye protection.
- Skin Protection: Wear appropriate gloves which is impervious to organic solvents and chemicals.
- Other Protection: Work clothes specified by the manufacturer or supplier, and safety shoes.

Substance	CAS No.	Exposure Limit Value			
		Short Term		Eight Hours	
		AGS&DFG		AGS&DFG	
		EU	Germany	EU	Germany
4-Methylpentan-2-one	108-10-1		40PPM	20PPM	20PPM
n-Butyl acetate	123-86-4		200PPM		100PPM
Ethyl acetate	141-78-6		800PPM		400PPM
4-Hydroxy-4-methylpentan-2-one	123-42-2		40PPM		20PPM
Ethanol	64-17-5		1000PPM		500PPM
Butan-2-one	78-93-3	300PPM	200PPM	200PPM	200PPM
Butan-1-ol	71-36-3		100PPM		100PPM
1-Methoxypropan-2-ol	107-98-2	150PPM	200PPM	100PPM	100PPM
Dimethyl ether	115-10-6		800PPM	1000PPM	1000PPM

## 9 Physical and Chemical Properties

## Physical appearance

Colour	:	BLACK
Form	:	Aerosol/liquid
Order	:	Solvent odor

## Additional data

Change of state	:	Pressure of gas is immediately ejected gas. Sprayed solvents evaporate quickly.
Boiling point/range	:	-23.6°C
Flash point	:	-31.3°C
Flammability	:	Spray and evaporative gases are extremely flammable.
Ignition temperature	:	n.a.
Auto Ignition	:	no
Oxidizing properties	:	the case of overheating
Explosion Danger	:	overheating rupture/bursting of the container Formation of explosive mixtures are possible.
Explosion limits	:	n.a.*
Vapour pressure inside the dispenser	:	at 50°C maximum 2/3 of maximum pressure allowed for the dispenser
Density, here: apparent density at 20°C	:	0.900±0.100g/cm <sup>3</sup>
Solubility in water	:	yes
Solvent content	:	30-50%
More details	:	* The finished preparation in the aerosol dispenser only upon the addition of the pressurized gas. * Details are in the hermetically sealed under pressure not measurable container.

## 10 Stability and Reactivity

## [ Reactivity Information ]

- Materials to be avoided: Keep away from strong oxides and/or peroxides that will cause polymerization and/or generate heat or fire by mixing or contact.
- Other reactivity information: None.

## 11 Toxicological Information

Health Hazard Information on Ingredient Table 1

Substance name	Acute toxicity (LD50, LC50, etc.)				
	Oral	Dermal	Inhalation (Gas)	Inhalation (Vapor)	Inhalation (Dust, Mist)
2-Pentanone, 4-methyl-	Category 5 2919mg/kg	Category 5 3000mg/kg	Not Applicable	Category 3 2000ppm	Not Classifiable
Acetic acid, butyl ester	Not Categorized 14130mg/kg	Not Categorized	Not Applicable	Category 3 2000ppm	Category 4 1.85mg/l
Acetic acid ethyl ester	Not Categorized > 5000mg/kg	Not Categorized	Not Applicable	Not Categorized	Not Classifiable
Carbon black	Not Categorized 15400mg/kg	Not Classifiable	Not Applicable	Not Classifiable	Not Classifiable
2-Pentanone, 4-hydroxy-4-methyl-	Category 5 4000mg/kg	Not Categorized	Not Applicable	Not Classifiable	Not Classifiable
Ethanol	Not Categorized > 5000mg/kg	Not Classifiable	Not Applicable	Not Categorized	Not Categorized
2-Butanone	Category 5 2483mg/kg	Not Categorized	Not Applicable	Category 5 11700ppm	Not Classifiable
1-Butanol	Category 4 1227mg/kg	Category 5 3636mg/kg	Not Applicable	Not Categorized	Not Classifiable
2-Propanol, 1-methoxy-	Not Categorized 5113mg/kg	Not Categorized	Not Applicable	Not Classifiable	Not Classifiable
Ethanol, 2-butoxy-	Category 4 1746mg/kg	Category 2 135mg/kg	Not Applicable	Category 2 450ppm	Not Classifiable
Methane, oxybis-	Not Classifiable	Not Classifiable	Not Categorized	Not Applicable	Not Applicable

Health Hazard Information on Ingredient Table 2

Substance name	Skin Corrosion - Irritation	Serious Damage to Eyes - Eye Irritation	Respiratory Sensitization	Skin Sensitization	Germ Cell Mutagenicity	Carcinogenicity
2-Pentanone, 4-methyl-	Not Categorized	Not Categorized	Not Classifiable	Not Categorized	Not Categorized	Not Categorized
Acetic acid, butyl ester	Category 3	Category 2B	Not Classifiable	Not Classifiable	Not Classifiable	Not Classifiable
Acetic acid ethyl ester	Not Categorized	Category 2B	Not Classifiable	Not Classifiable	Not Categorized	Not Classifiable
Carbon black	Not Classifiable	Not Classifiable	Not Classifiable	Not Classifiable	Not Classifiable	Category 2

2-Pentanone, 4-hydroxy-4-methyl-	Category 2	Category 2A	Not Classifiable	Not Classifiable	Not Classifiable	Not Classifiable
Ethanol	Not Categorized	Category 2A-2B	Not Classifiable	Not Classifiable	Category 1B	Not Categorized
2-Butanone	Category 2	Category 2B	Not Classifiable	Not Classifiable	Not Categorized	Not Categorized
1-Butanol	Category 2	Category 2A	Not Classifiable	Not Classifiable	Not Categorized	Not Categorized
2-Propanol, 1-methoxy-	Category 3	Category 2A-2B	Not Classifiable	Not Classifiable	Not Categorized	Not Classifiable
Ethanol, 2-butoxy-	Category 2	Category 2A	Not Classifiable	Not Categorized	Not Categorized	Not Categorized
Methane, oxybis-	Not Classifiable	Not Classifiable		Not Classifiable	Not Classifiable	Not Classifiable

Health Hazard Information on Ingredient Table 3

Substance name	Reproductive toxicity	Specific Target Organ (Single Exposure)
2-Pentanone, 4-methyl-	Not Categorized	Category 3( Respiratory tract irritation, Narcotic effects )
Acetic acid, butyl ester	Not Categorized	Category 1( Central nervous system ) Category 2( Lung ) Category 3( Respiratory tract irritation )
Acetic acid ethyl ester	Not Classifiable	Category 1( Respiratory system ) Category 3( Narcotic effects )
Carbon black	Not Classifiable	Not Classifiable
2-Pentanone, 4-hydroxy-4-methyl-	Category 2	Category 1( Respiratory system ) Category 2( Liver ) Category 3( Narcotic effects )
Ethanol	Category 1A	Category 3( Respiratory tract irritation, Narcotic effects )
2-Butanone	Not Categorized	Category 1( Central nervous system ) Category 2( Kidney ) Category 3( Respiratory tract irritation )
1-Butanol	Not Categorized	Category 3( Respiratory tract irritation, Narcotic effects )
2-Propanol, 1-methoxy-	Not Categorized	Category 3( Narcotic effects )
Ethanol, 2-butoxy-	Category 2	Category 1( Central nervous system, Blood, Kidney, Liver ) Category 3( Respiratory tract irritation )
Methane, oxybis-	Not Classifiable	( Narcotic effects )

Health Hazard Information of Ingredient Table 4

Substance name	Specific Target Organ (Repeat Exposure)	Aspiration Respiratory Toxicity
2-Pentanone, 4-methyl-	Category 1( Systemic toxicology )	Category 2
Acetic acid, butyl ester	Not Classifiable	Not Classifiable
Acetic acid ethyl ester	Not Classifiable	Not Classifiable
Carbon black	Category 1( Lung )	Not Classifiable
2-Pentanone, 4-hydroxy-4-methyl-	Category 1( Kidney )	Not Classifiable
Ethanol	Category 1( Liver ) Category 2( Nerve )	Not Classifiable
2-Butanone	Category 1( Central nervous system, Peripheral nervous system )	Category 2
1-Butanol	Category 1( Central nervous system, Auditory organ )	Category 2
2-Propanol, 1-methoxy-	Not Categorized	Not Classifiable
Ethanol, 2-butoxy-	Category 2( Blood )	Not Applicable
Methane, oxybis-	Not Classifiable	Not Classifiable

## 12 Ecological information

Aqueous Milieu Hazard Information on Ingredient

Substance name	Hazardous to Aquatic Environment (Acute)	Hazardous to Aquatic Environment (Chronic)
2-Pentanone, 4-methyl-	Not Categorized	Not Categorized
Acetic acid, butyl ester	Category 3	Not Categorized
Acetic acid ethyl ester	Not Categorized	Not Categorized
Carbon black	Not Categorized	Category 4
2-Pentanone, 4-hydroxy-4-methyl-	Not Categorized	Not Categorized
Ethanol	Not Categorized	Not Categorized
2-Butanone	Not Categorized	Not Categorized
1-Butanol	Not Categorized	Not Categorized
2-Propanol, 1-methoxy-	Not Categorized	Not Categorized
Ethanol, 2-butoxy-	Category 2	Not Categorized
Methane, oxybis-	Not Categorized	Not Categorized

## 13 Disposal Considerations

- Content should be used up before disposal of container.
- Container/content should be disposed in accordance with local, regional and national regulations.

## 14 Transport Information

### 14.1 UN number

ADR : 1950  
IMDG : 1950  
IATA : 1950

### 14.2 Proper shipping name

ADR	: AEROSOLS
IMDG	: AEROSOLS
IATA	: Aerosols, flammable

#### 14.3 Transport hazard class

ADR	: 2
IMDG	: 2.1
IATA	: 2.1

#### 14.4 Packing group

ADR	
Classification Code	: 5F
Tunnel restriction code	: (D)
IMDG	
EmS Number	: F-D, S-U
IATA	
Packing instruction (cargo aircraft)	: 203
Packing instruction (LQ)	: Y203

#### 14.5 Environmental hazards

ADR	
Environmentally hazardous	: yes
IMDG	
Marine pollutant	: no
IATA	
Environmentally hazardous	: no

#### 14.6 Special precautions for user

For personal protection see section 8.

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

No data available

### 15 Regulatory Information

Particular hazards associated with the preparation and safety recommendations:

---

### 16 Other Information

Full text risk of R-phrases referred to under sections 2 and 3:

R10: Flammable  
R11: Highly flammable  
R12: Extremely flammable  
R20: Harmful by inhalation  
R20/22: Harmful by inhalation and if swallowed  
R22: Harmful if swallowed  
R36: Irritating to eyes  
R36/37: Irritating to eyes and respiratory system  
R37/38: Irritating to respiratory system and skin  
R41: Risk of serious damage to eyes  
R66: Repeated exposure may cause skin dryness or cracking  
R67: Vapours may cause drowsiness and dizziness

Full text risk of H-statements referred to under sections 2 and 3:

H220: Extremely flammable gas  
H222: Extremely flammable aerosol  
H225: Highly flammable liquid and vapour  
H226: Flammable liquid and vapour  
H229: Pressurized container: may burst if heated  
H302: Harmful if swallowed  
H315: Causes skin irritation  
H318: Causes serious eye damage  
H319: Causes serious eye irritation  
H332: Harmful if inhaled  
H335: May cause respiratory irritation  
H336: May cause drowsiness or dizziness  
EUH066: Repeated exposure may cause skin dryness or cracking

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is

not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Parts of the Safety Data Sheet marked with red line are updated.