

# Safety Data Sheet as per regulation (EC) 1907/2006

Commercial Product Name : MS1

Article-No. : 7169/7176

Revision Date : 23.01.2020

Version : 1.1 /en

Replaces version from : 30.09.2019

Print date : 23.01.2020

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

### 1.1 Product identifier

Commercial Product Name MS1

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

Relevant identified uses Auxiliary for dental technology

### 1.3 Details of the supplier of the safety data sheet

Company designation HPdent GmbH  
Erwin-Dietrich-Straße 5  
78244 Gottmadingen  
+49 7731 38 11 044  
+49 7731 31 97 123  
info@hpdent.com

Responsible Department HPdent GmbH | Erwin-Dietrich-Strasse 5 | 78244 Gottmadingen |  
+49 7731 38 11 044 | +49 7731 31 97 123 | kontakt@hp-dent.com

### 1.4 Emergency telephone number

Emergency telephone number During opening hours: +49 7731 38 11 044 Opening hours Mo – Th  
from 8.30 a.m. to 5 p.m. / Fr from 08.30 a.m. to 4 p.m. (CET).

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 Eye Irrit. 2, Category 2  
Narcotic effects, Category 3  
Flam. Liq. 2, Category 2

### 2.2 Label elements

Hazard pictogram



GHS02



GHS07

H-statement(s)

H226: Flammable liquid and vapour.  
H319: Causes serious eye irritation.  
H336: May cause drowsiness or dizziness.

P-statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P233: Keep container tightly closed.  
P241: Use explosion-proof (electrical/ventilating/lighting/ ...) equipment.  
P242: Use non-sparking tools.  
P243: Take action to prevent static discharges.  
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264: Wash Both hands/Skin thoroughly after handling.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312: Call a POISON CENTER/doctor/ if you feel unwell.  
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower).  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous ingredients

Ingredient	CAS No.	Classification (EC) 1272/2008	Concentration
butanone; ethyl methyl ketone	CAS No. : 78-93-3 EC-No. : 201-159-0 Index-No. : 606-002-00-3	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	approx. 70.0 – 100.0 % by weight
2-Propenoic acid, 2-methyl-, polymer with methyl 2- methyl-2-propenoate (average MW 135 000 g/mol)	CAS No. : 25086-15-1	This product is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].	approx. 10.0 – 25.0 %

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

Get medical advice/attention if you feel unwell.  
Never give anything by mouth to an unconscious person or a person with cramps.

If inhaled

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

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In case of unconsciousness	In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.
In case of skin contact	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
In case of eye contact	In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
If swallowed	IF SWALLOWED: Do NOT induce vomiting. Give nothing to eat or drink. Call a physician immediately.

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

Symptoms	eyes: Causes eye irritation. Skin: Causes skin irritation. oral: Signs and symptoms of excessive exposure may be CNS effects such as sleepiness and unconsciousness. Acute toxicity: R36/37: Reizt die eyes und die Atmungsorgane.
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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media	Water spray jet, Dry extinguishing powder, alcohol resistant foam, Carbon dioxide (CO <sub>2</sub> )
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### 5.2 Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases	Combustible by-products of carbon monoxide/dioxide. NOTES: Methyl methacrylate monomer may be released (CAS 80-62-6) when heated above 200 °C (392 °F).
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### 5.3 Advice for firefighters

Additional information on firefighting	Wear a self-contained breathing apparatus and chemical protective clothing. Cool closed containers that are near the source of the fire. For small bottle: Smother with water, wet blanket or towel. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. In use, may form flammable/explosive vapour-air mixture.
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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear personal protection equipment (refer to section 8).
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## 6.2 Environmental precautions

Environmental precautions      Absorb liquid and place in sealed container for disposal.  
Do not allow to enter into surface water or drains.  
Wash hands before eating, drinking or smoking.  
Wash contaminated clothing prior to re-use.  
Handling larger quantities: Remove all sources of ignition. Use on-ly spark proof tools. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

## 6.3 Methods and material for containment and cleaning up

Methods for cleaning up      Clear spills immediately. Remove all sources of ignition. Remove persons to safety. Ventilate affected area. Special danger of slipping by leaking/spilling product. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Do not breathe vapour/aerosol.  
Dispose of waste according to applicable legislation.  
Remove all sources of ignition.  
Wipe up with absorbent material (eg. cloth, fleece).

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Advice on safe handling      Provide for sufficient ventilation, particularly in closed rooms.  
Avoid contact with eyes and skin.  
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.  
Keep cool. Protect from sunlight. Remove all sources of ignition.

## 7.2 Conditions for safe storage, including any incompatibilities

Storage space and container re-      Handle containers carefully to prevent damage and spillage.  
quirements  
Hints on storage assembly      Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.  
Storage specifications      Store at temperatures not exceeding 38 °C/100 °F.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

butanone; ethyl methyl ketone

Germany					
Value / ppm	Value / mg/m <sup>3</sup>	Ceiling Limit Value	Remarks	Issuing date	Source
200	600	1(l)	*1) *2)	01/06	TRGS 900

\*1): Senate Commission on the Testing of Health Hazardous Materials of the German Research Community. European Union. \$PHR:socal;

\*2): AGW\_DE\_H:RHP\$ A risk of damage to the fruit need not be feared if the workplace limit value and the biological limit value (BGW) are observed.

Germany					
Germany	Parameter	Test material	Sampling time	Issuing date	Source
2 mg/l	2-Butanon	U	b	05/2015 DFG	TRGS 903

Europe					
Long-term exposure value/ mg/m <sup>3</sup>	Long-term exposure value/ ppm	Short-term exposure value / mg/m <sup>3</sup>	Short-term exposure value / ppm	Issuing date	Source
600	200	900	300	2000/39	DIRECTIVE 2009/161/EU

Denmark				
Value / ppm	Value / mg/m <sup>3</sup>	Note	Source	
50	145	EH	Bekendtgørelse om ændring af bekendtgørelse om grænseværdier for ...	

Norway			
Value / ppm	Value / mg/m <sup>3</sup>	Source	
75	220	Veiledning om administrative normer for forurensning i arbeidsatmosfæ...	

Sweden					
Long-term exposure value/ ppm	Long-term exposure value/ mg/m <sup>3</sup>	Short-term exposure value / ppm	Short-term exposure value / mg/m <sup>3</sup>	Issuing date	Source
50	150	300	900	2015	HYGIENISKA GRÄNSVÄRDEN OCH ÅTGÄRDER MOT LUFTFÖRORENINGAR 2011:18

Finland				
Short-term exposure value / ppm	Short-term exposure value / mg/m <sup>3</sup>	Remarks	Issuing date	Source

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100	300	Skin	2005	HTTP-arvot 2012:5 HAITALLISIKSI TUN- NETUT PITOISUUDET
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Poland		
Long-term exposure value/ mg/m3	Short-term exposure value / mg/m3	Source
450	900	ROZPORZADZENIE MINISTRA PRACY I POLITYKI SPOLECZNEJ1) z dnia 16 cz- erw...

Austria								
Area of validity	Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Duration	Frequency per shift	Skin re-sorption / sensibilisation	Source
MAK	100	295	200	590	30(Miw)	4x	H	Stoffliste (MAK- Werte und TRK-Werte 2012)

Switzerland							
Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Notations	Critical toxicity	Source	
200	590	200	590	H B SSC	NS OAW	SUVA Switzer- land 2017	

USA (ACGIH)			
Short term exposure limit	Long-term value	Basis	Source
300 ppm	200 ppm	Irritation, CNS	ACGIH Threshold Limit Values for Chemical Sub- stances 2008

Spain						
Long-term expo- sure value/ ppm	Long-term expo- sure value/ mg/ m3	Short-term ex- posure value / ppm	Short-term ex- posure value / mg/m3	Note	Source	
200	600	300	900	VLB, VLI	Límites de ex- posición pro- fesional para Agentes Químicos 2014	

France								
Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Remarks	TMP n°	FT n°	Issuing date	Source
200	600	300	900	Risk of penetra-	84	14	2007	Valeurs limites

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Belgium				
Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Source
200	600	300	900	Liste de valeurs limites d'expositions professionnelle aux agents ...

Netherlands			
Long-term exposure value/ mg/m3	Short-term exposure value / mg/m3	Skin resorption / sensibilisation	Source
590	900	H	Lijst met wettelijke grenswaarden 2011

Great Britain					
Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Remarks	Source
200	600	300	899	Can be absorbed through the skin.	EH40/2005 Workplace exposure limits (2011)

Czech Republic			
Long-term exposure value/ mg/m3	Short-term exposure value / mg/m3	Note	Source
600	900	I	NARÍZENÍ VLÁDY ze dne 12.prosince 2007 kterým se stanoví podmínky oc...

Ireland					
Long-term exposure value/ ppm	Long-term exposure value/ mg/m3	Short-term exposure value / ppm	Short-term exposure value / mg/m3	Remarks	Source
200	600	300	900	Sk, IOELV	Code of Practice for the Safety Health and Welfare at Work (2011)

Hungary				
Long-term exposure value/ mg/m3	Short-term exposure value / mg/m3	Note	Remarks	Source
600	900	b, i	II.1. EU1	25/2000. (IX. 30.) EüM-SzCsM együttes

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Estonia				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Short-term exposure value / mg/m3	Short-term exposure value / ppm	Source
600	200	900	300	Töökeskonna keemiliste ohute-gurite piirnormid 11.10.2007 nr 223 (RT ...

Slovenia				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Ceiling Limit Value	Remarks	Source
600	200	1,5	BAT, EU	77

Malta				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Short-term exposure value / mg/m3	Short-term exposure value / ppm	Source
600	200	900	300	National Occupational Exposure Limits Malta 2003

Luxembourg				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Short-term exposure value / mg/m3	Short-term exposure value / ppm	Source
600	200	900	300	Règlement grand-ducal du 31 octobre 2008 modifiant le règlement grand...

Lithuania				
Short-term exposure value / mg/m3	Short-term exposure value / ppm	Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Source
600	200	900	300	36

Bulgaria			
Long-term exposure value/ mg/m3	Short-term exposure value / mg/m3	Source	
590	885	81	

Latvia				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Short-term exposure value / mg/m3	Short-term exposure value / ppm	Source
600	200	900	300	78

Romania				
Long-term exposure value/ mg/m3	Long-term exposure value/ ppm	Short-term exposure value / mg/m3	Short-term exposure value / ppm	Source



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600	200	900	300	79
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	Parameter	Sampling time	Source
2 mg/l	Methyl ethyl ketone in urine	End of shift	79

Greece				
Long-term exposure value / mg/m <sup>3</sup>	Long-term exposure value / ppm	Short-term exposure value / mg/m <sup>3</sup>	Short-term exposure value / ppm	Source
600	200	900	300	80

## 8.2 Exposure controls

Respiratory protection	If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.
Hand protection	Wear protective gloves.
Suitable material	CR (polychloroprene, chloroprene rubber)
Unsuitable material	PVC or rubber gloves are not recommended.
Eye protection	Wear eye glasses with side protection according to EN 166.
Skin and body protection	Avoid contact with skin. Wash contaminated clothing before reuse.
General protective and hygiene measures	Provide for sufficient ventilation, particularly in closed rooms. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. In case of inadequate ventilation wear respiratory protection. Usual hygienic measures of dental practice and dental laboratories.
Engineering measures	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other information (chapter 8.)	Wash hands before eating, drinking or smoking. Wash contaminated clothing prior to re-use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear, colourless
Odour	mild ketone odor
Boiling point [°C]	79 °C/175 °F

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Flash point [°C]	-4 °C/25 °F (TAG CC)
Evaporation rate [kg/(s*m²)]	6,0 (n-Butyl Acetate = 1)
Explosion limits [Vol-% ]	
Lower limit	2,6
Upper limit	12,8
Vapour pressure [kPa]	24 °C/75 °F at 83 mmHg
Relative density	0,86 (water =1)
Water solubility [g/l]	slightly soluble

## 9.2 Other information

Other data No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reactivity Hazardous Polymerization will not occur.

### 10.2 Chemical stability

Chemical stability The product is stable under storage at normal ambient temperatures.

### 10.3 Possibility of hazardous reactions

Hazardous reactions No hazardous reaction when handled and stored according to provisions.

### 10.4 Conditions to avoid

Conditions to avoid Keep away from sources of ignition. When not in use, keep containers tightly closed.

### 10.5 Incompatible materials

Materials to avoid Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

### 10.6 Hazardous decomposition products

Hazardous decomposition products carbon dioxide, carbon monoxide. Hazardous decomposition byproducts may form with exposure to high temperatures.

CuO

ZnO

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Irritant effect on skin Causes mild skin irritation.

Irritant effect on eyes May be irritating

## SECTION 12: Ecological information

### 12.4 Mobility in soil

Distribution in the environment Do not allow to enter ground-water, surface water or drains, even not in small quantities.

### 12.6 Other adverse effects

Further information on ecology Do not allow uncontrolled discharge of product into the environment. No further relevant information available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Disposal considerations Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

## SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG	Air transport ICAO/IATA
14.1 UN-No	UN1193	UN1193, Flammable liquids, n. o. s., (Methyl Ethyl Ketone)	UN1193
14.3 Transport hazard class(es)	3	IMDG-CODE-Class 3	3
14.4 Packaging group	II	II	II
14.2 Description of the goods	METHYL ETHYL KETONE		
Inducer/cause of environmental hazard	0: Non-marine pollutant		
Proper shipping name	UN1193, Flammable liquids, n. o. s., (Methyl Ethyl Ketone), 3, II		
14.2 UN proper shipping name		METHYL ETHYL KETONE	Flammable liquids, n. o. s., (Methyl Ethyl Ketone),

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

Transport in bulk according to Annex II of MARPOL and the IBC Code Not applicable

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## **SECTION 15: Regulatory information**

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

VOC 731 g/L

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

### **15.2 Chemical safety assessment**

Safety assessment For this substance a chemical safety assessment has not been carried out.

## **SECTION 16: Other information**

Relevant H-phrases H225: Highly flammable liquid and vapour.  
H319: Causes serious eye irritation.  
H336: May cause drowsiness or dizziness.

Wording of the hazard classes Flam. Liq.: Flammable liquid  
Eye Irrit.: Serious eye irritation  
STOT SE: Specific target organ toxicity – single exposure  
This product is classified as not hazardous according to regulation EC CLP

Further information The information is based on present level of our knowledge. It does not however, give assurances of product properties and establishes no contract legal rights.  
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Modifications of the previous version are denoted with an asterisk (\*).

This information is provided in accordance with the current status of our knowledge and experience. The Safety Data Sheet describes products with a view to relevant safety requirements. This information does not constitute a warranty of properties, features or qualities.