

## Safety Data Sheet

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

**1.1 Product identifier** **MODELHART SPRAY (REF 941-160)**

**1.2. Relevant identified uses of the substance or mixture and uses advised against**  
 Modelhart spray is used for hardening the model from investment material when duplicating with silicon.

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

Manufacturer/Supplier: Street: Country code /Postal code/City: Telephone: Fax:	INTERDENT d.o.o. Opekarniška cesta 26 SI-3000 Celje +386(0) 425-62-00 +368(0) 490-62-02	<i>Production:</i> INTERDENT d.o.o. Dol 1 SI-3342 Gornji Grad
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**1.4 Emergency telephone number**

Emergency phone: 112 (EU)  
+386(0) 425-62-00 (Mon. – Fri.: 8.00-16.00)

### **SECTION 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

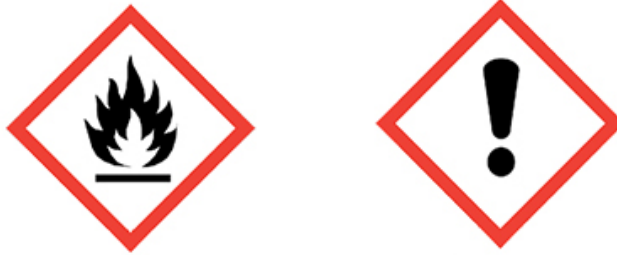
Classification according to Regulation (EC) No 1272/2008:

Hazard class	Hazard category	Hazard statements
Aerosols	1	H222 Extremely flammable aerosol H229 Pressurized container: May burst if heated
Flammable liquids	3	H225 Highly flammable liquid and vapour.
Serious eye damage/eye irritation	2	H319 Causes serious eye irritation.
Specific target organ toxicity – Single exposure	3, Narcosis	H336 May cause drowsiness and dizziness.

**2.2 Label elements**

Labelling according to Regulation (EC) No. 1272/2008:

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**Hazard pictograms:****Signal word: DANGER****Hazard statements:**

H222 Extremely flammable aerosol  
H229 Pressurized container: May burst if heated  
H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation  
H336 Can cause sleepiness and dizziness.

**Additional phrase of danger:**

EUH066: Repeated exposure may cause skin dryness or cracking

**Precautionary statement:***Preventions:*

P210 Keep away from heat / sparks / open flame / hot surface – No smoking.  
P211 Do not spray on an open flame or other ignition source.  
P251 Pressurized container. Do not pierce or burn, even after use.  
P280 Wear protective gloves / protective clothing / eye protection / face protection.

*Response:*

P304 + P340 + P312 **IF INHALED:** If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a **POISON CENTER** or doctor/physician.  
P303+P361+P353 **IF ON SKIN (or hair):** take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

*Storage:*

P410+P412 Protect from sunlight. Not expose on temperature over 50<sup>0</sup> C/122<sup>0</sup> F

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*Disposal:*

P501 remove the product and the package in accordance with national legislation.

**Dangerous components, which should be put on the label:**

Propan-2-ol, n-Butyl acetate

**2.3 Other hazards**

PBT and vPvB evaluations are in section 12.5

### **SECTION 3: Composition / information on ingredients**

**3.1 Mixture (resin < 30 %)**

Chemical name	Index number EC number CAS number	%	Classification according to EC 1272/2008	
			Hazardous class/hazardous category	Hazardous phrases
<b>Propan-2-ol</b>	603-117-00-0	40-50	Flam.liq.3	H225
	200-661-7		Eye irrit.2	H319
	67-63-0		STOT SE3	H336
<b>n-Butyl acetate</b>	607-025-00-1	30-40	Flam.liq.3	H226
	204-658-1		STOT SE3	H336
	123-86-4			

### **SECTION 4: First Aid Measures**

**4.1 Description of first aid measures**

*Inhalation:*

Provide fresh air, artificial respiration if necessary, warmth. In case of unconsciousness unconscious position and transport in stable lateral position. Get medical attention.

*Skin contact:*

Remove contaminated clothing. First wash the skin with acetone or ethyl acetate to remove the resin. After removing resin wash skin with soap and water. Use protective cream.

*Eye contact:*

Rinse open eye with water for several minutes. If symptoms persist, seek medical advice.

*Ingestion:*

Rinse mouth with water and drink it cca. 100mL. seek medical advice. Do not induce vomiting. In case of vomiting after ingestion can come to aspiration in lungs and

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suffocation or chemical pneumonia. In the case of vomiting install injured in the recovery position.

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

Symptoms: cough, nausea, vomiting, headache, fainting, sleepiness, drowsiness.

Effects: the risk of severe damage to the lungs (inhalation), ingestion of large quantities may cause damage to the central nervous system (eg. dizziness, headache).

Refer to Section 11 – Toxicological information for detailed information.

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

Symptomatic treatment: other data not available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

*Suitable:*

CO<sub>2</sub>, powder, water spray, alcohol-resistant foam. Fight larger fires with water spray of foam alcohol-resistant.

*Unsuitable:*

Voluminous sprayed jet of water.

### 5.2 Special hazards arising from the substance or mixture

Specific risk during extinguishing: Vapours can be invisible and heavier than air and pulled across the floor. Vapours may form explosive mixtures with air and can also break down the flame of the fire around. In case of fire may produce hazardous decomposition products such as carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>).

### 5.3 Advice for firefighters

Special protective equipment: In case of fire, wear self-contained breathing apparatus. Secure the body appropriately (wear full protective clothing kit).

*Other instructions:* Endangered containers with hazardous materials cool with water spray. Heating causes rise in pressure - danger of explosion of closed containers. Water used for fire-fighting is not allowed to drain into sewers.

## SECTION 6: Accidental release measures

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

Wear protective clothing. Ensure un protective people. Take care for providing fresh air

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into space. Keep away from source of fire. Prevent from skin and eyes contact. Do not inhale vapour.

### 6.2 Environmental precautions

Do not allow to enter subsoil/earth. Do not allow to enter sewer system / surface waters / groundwater.

### 6.3 Methods and material for containment and cleaning up

Absorb overflow with an inert material that absorbs liquid (eg. Sand, diatomaceous earth, blotting paper, earth). Sticky residue purified with butyl acetate or acetone. Material soaked with the product collect in separate containers and dispose of in accordance with the law on waste.

### 6.4 Reference to other sections

Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Keep in tightly sealed container. Use only in well ventilated areas. Use protective equipment. Prevent contact with skin and eyes. Do not inhale vapours or aerosol. In case of accident shower and eye wash must be nearby.

### 7.2 Conditions for safe storage, including any incompatibilities

*Requirements for storage areas:* Store in a field where the floor is resistant to solvents. Store in tightly closed containers to prevent evaporation.

*Advice on protection against fire and explosion:* Keep away from sources of ignition – do not smoke. Vapours may form explosive mixtures with air. The vapours are heavier than air and dragging on the floor.

*Storage:* Store in tightly sealed containers. Keep away from food, drink and feed. Do not store together with oxidizing and self-igniting products. Incompatible with strong acids, bases and strong oxidizing agents.

### 7.3. Specific end use(s)

The product should be used in accordance with the required instructions for use on the label. The product is intended for professional use.

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<b>SECTION 8: Exposure controls/personal protection</b>		
<b>8.1 Control parameters</b>		
<b>Ingredients with limit values that have to be considered and measured in the working place</b>		
<b>Propan-2-ol</b>		
<b>OEL</b>	Current exposure: 1000 mg/m <sup>3</sup> , 400 ppm Long-term exposure: 500 mg/m <sup>3</sup> , 200 ppm Y, BAT	
<b>Oral</b>	<b>DNEL</b>	26 mg/kg (users-long-term exposure-systemic effect)
<b>Dermal</b>		888 mg/kg (workers-long-term exposure-systemic effect) 319 mg/kg (users-long-term exposure-systemic effect)
<b>Inhalable</b>		500 mg/m <sup>3</sup> (workers-long-term exposure-systemic effect) 89 mg/m <sup>3</sup> (users-long-term exposure-systemic effect)
<b>Ingredients with biological limit values</b>		
<b>Propan-2-ol</b>		
<b>BAT</b>	25 mg/l Biological sample: blood Time of sampling: at the end of working shift Characteristic indicator: acetone	
	25 mg/l Biological sample: blood Time of sampling: at the end of working shift Characteristic indicator: acetone	
<b>For Propan-2-ol</b>		
<b>Foreseen concentration without effect (PNEC):</b>		
Fresh water: 140,9 mg/l		
Sea water: 140,9 mg/l		
Release intervals: 140,9 mg/l		
Waste water treatment plant: 2251 mg/l		
The sediment associated with the weight of the dry material: 552 mg/kg		
Floor associated with the weight of the dry matter: 28 mg/kg		
Secondary poisoning associated with food: 160 mg/kg		
<b>n-butyl acetate</b>		
<b>OEL</b>	Current exposure: 600 mg/m <sup>3</sup> , 124 ppm Long-term exposure: 300 mg/m <sup>3</sup> , 62 ppm Y	
<b>Oral</b>	<b>DNEL</b>	3,4 mg/kg body weight /day (users-long-term exposure-systemic effect)

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<b>Dermal</b>		7 mg/kg body weight /day (workers-long-term exposure-systemic effect)
<b>Inhalation</b>		3,4 mg/kg body weight /day (users-long-term exposure-systemic effect) 48 mg/m <sup>3</sup> (workers-long-term exposure-systemic effect) 12 mg/m <sup>3</sup> (users-long-term exposure-systemic effect)
	<b>PNEC</b>	Fresh water: 0,18mg/l
		Sea water: 0,018mg/l
		Release intervals: 0,36mg/l
		Waste water treatment plan: 35,6 mg/l
		The sediment in the fresh water associated with the weight of the dry material: 0,981 mg/kg
		The sediment in the sea water associated with the weight of the dry material: 0,0981mg/kg
		Floor associated with the weight of the dry matter: 0,0903 mg/kg

### 8.2 Exposure controls

Personal protective equipment in accordance with Regulation (EU) 2016/425 And List of harmonized standards for personal protection equipment 2018/C 209/03.

#### Personal protective equipment

*General protection and hygienic measures:*

Immediately take off the contaminated clothes. Don't inhale gas, aerosols. During work do not eat, drink or smoke. Wash hand before break and when you finish with work.

*Respiratory protection:*

With sufficient ventilation and with regards to intended use any special protection is not necessary, otherwise mask EN 140:1998/AC:1999 with protective filter type A [boiling point >65°C (149°F)] (EN14387:2004+A1:2008).

*Hand protection:*

Gloves resistance against solvent EN ISO 374-1:2016. Wear solvent resistant gloves. Material: nitrile rubber; thickness 0,2 mm.

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*Skin and body protection:*

Protective antistatic coat (EN ISO 1149-5:2008) and antistatic footwear (EN ISO 20345:2011).

*Eye protection:*

Wearing safety goggles (EN 166:2001).

### 8.3 Control of environment protection

Common instructions: Do not wash rinse with fresh water or to drainage system. If the

aquaducte or drainage system is contaminated, inform competent authorities immediately.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

<b>Information for n-butyl acetate</b>	
<b>Form</b>	Liquid
<b>Colour</b>	colorless
<b>Odour</b>	aromatic
<b>pH</b>	8,1
<b>Density</b>	0,94 g/mL (20°C)
<b>Boiling point</b>	126°C(1,013kPa)
<b>Inflammation</b>	27°C
<b>Flammability</b>	415°C
<b>Upper explosion limit</b>	7,5% (V)
<b>Lower explosion limit</b>	1,2% (V)
<b>Oxidation</b>	n.a.
<b>Vapour pressure</b>	15kPa (20°C)
<b>Solubility</b>	n.a.
<b>Solubility in water</b>	n.a.
<b>Partition coefficient: n-octanol/water</b>	n.a.
<b>Viscosity</b>	0,73mPa·s (20°C)
<b>Vapour density</b>	n.a.
<b>Evaporation rate</b>	n.a.
<b>Data are for propan-2-ol</b>	
<b>pH</b>	neutral
<b>Boiling point</b>	82°C
<b>Flashpoint</b>	12°C
<b>Autoignition</b>	No data available
<b>Upper explosion limit</b>	12% (vol)



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<b>Lower explosion limit</b>	2% (vol)
<b>Oxidative characteristics</b>	n.a.
<b>Vapour pressure</b>	48hPa (20°C)
<b>Density</b>	0,785g/cm <sup>3</sup>
<b>Solubility in water</b>	miscible in all ratios
<b>Partition coefficient: n-octanol/water</b>	log Kow 0,05 (OECD Test guideline 107) literature value
<b>Viscosity</b>	2,43 mPa·s (20°C)
<b>Vapour density</b>	n.a.
<b>Evaporation rate</b>	n.a.

### Information for Modelhart spray

Solubility in water: insoluble

Density: 0,9 g/mL (20°C) – value for product

### 9.2 Other information

No additional information relevant to safe use.

## **SECTION 10: Stability and reactivity**

### 10.1 Reactivity

Stable under recommended storage conditions and the intended use.

### 10.2 Chemical stability

When stored and used properly does not fall apart.

### 10.3 Possibility of hazardous reaction

No data available.

### 10.4 Conditions to avoid

Flame and sparks. Product is filled under pressure. Higher temperature can cause pressure in package and package can explode. Product should not be expose to sunbelt  
Thermal decomposition: No information.

### 10.5 Incompatible materials

Strong oxidizing agents, strong acids and bases

### 10.6 Hazardous decomposition products

In case of fire: Carbon monoxide and carbon dioxide.

Dangerous products decomposition: When pre-heating the investment material such the gases to the outside.

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### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

Experience with human exposure: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. When burning, form toxic gases. Harmful effects if inhaled show up gradually.

#### **Chemical name: n-butyl acetate**

Acute toxicity - Oral: LD<sub>50</sub> (rat): 10760mg/kg (OECD 423)

Acute toxicity - Dermal: LD<sub>50</sub> (rabbit) > 14112mg/kg (OECD test Directive 402)

Acute toxicity – Inhalational: LC<sub>50</sub> (rat): 23,4mg/l, 4 hours (OECD test Directive 403)

Skin irritation: do not irritate skin (rabbit) (OECD Test Directive 404)

Eye irritation: do not irritate eyes (rabbit) (OECD Test Directive 405)

Sensibility: do not cause sensibility (guinea pig) (Maximal. test) (OECD test Directive 406); do not cause sensibility (mouse) (test of leakage the mouse ears (MEST))

#### **Effect CMR**

Mutagenicity: Ames test: negative

#### **Chemical name propan-2-ol**

#### **Important LD/LC50 values for classification:**

<b>Orale</b>	<b>LD50</b>	>2000 mg/kg (rat)
<b>Dermal</b>		>2000 mg/kg (rabbit)
<b>Inhalation</b>		20 mg/kg (rat)

Skin irritation: do not irritate skin

Eye irritation: Irritate eyes (OECD Test Directive 405)

Sensibility: do not cause sensibility (OECD test Directive 406); sensibility effect is not known

#### **Effect CMR**

Mutagenicity: Ames test: negative

Carcinogenicity: Not considered to be carcinogenic.

Teratogenicity: No effects on lactation or beyond.

Reproductive toxicity: Not applicable for toxic for reproduction.

#### **The toxicity for specific organs**

Single exposure - inhalation: May cause drowsiness or dizziness.

Repeated Exposure: Studies of long-term oral and inhale exposure executed in target organs of male rats and thyroid female mice with a mechanism of action that is

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not valid for humans.

Ingestion: If swallowed, there is risk of inhalation - can enter lungs and cause damage. Aspiration may cause pulmonary edema and pneumonitis.

### **SECTION 12: Ecological information**

**Chemical name: n-butyl acetate**

#### **12.1 Toxicity**

Acute poisoning: LC50: 18mg/l (fathead minnow (*Pimephales promelas*)); 96 h (OECD 203)

Toxicity to daphnia and other aquatic invertebrates: EC50: 44mg/l (*Daphnia magna*(water flea); 48h)

Algae: EC50: 647,7 mg/l (*Desmodesmus subspicatus* (green algae); 72h (inhibition of growing))

NOEC: 200mg/l (*Desmodesmus subspicatus* (green algae))(Inhibition of growing)

Bacteria: IC50: 35 mg/l (*Tetrahymena*; 40h)

#### **12.2 Persistence and degradability**

Effect duration: no information available

Biodegradation: 83% (aerobic; time of expose: 28 d) (OECD 301D), easy biodegradable

#### **12.3 Bioaccumulative potential**

No data available.

#### **12.4 Mobility in soil**

Surface tension: 61,3 mN/m (1g/l; 20°C) (OECD Test Directive 115)

Mobility: No information

#### **12.5 Results of PBT and vPvB assessment**

The substance is not considered to be persistent, bioaccumulative or toxic. The substance is not considered to be very persistent and very bioaccumulative.

#### **12.6 Other adverse effect**

Avoid empty into drains, water courses or the soil.

**Chemical name: propan-2-ol**

#### **12.1 Toxicity**

Acute toxicity-fish: LC50: 9640 mg/l (*pimephales promelas*; 96h)

Acute toxicity for daphnia and other aquatic invertebrates: LC50: 9714 mg/l

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(daphnia magna;24h)

Acute toxicity – algae: EC50:>100 mg/l (Scenedesmus subspicatus; 72h)

Acute toxicity – bacteria: >100 mg/l (Bacteria, no harmful effect)

### 12.2 Persistence and degradability

Effect duration: no information available

Biodegradation 53% (time of expose: 5 d) Easy biodegradable.

### 12.3 Bioaccumulative potential

Not expectable.

### 12.4 Mobility in soil

Product is mobile in environment.

### 12.5 Results of PBT and vPvB assessment

The substance is not considered to be persistent, bioaccumulative or toxic. The substance is not considered to be very persistent and very bioaccumulative.

### 12.6 Other adverse effect

Do not rinse in aquaducte or drainage system. Prevent the penetration into the soil.

## **SECTION 13: Disposal considerations**

### 13.1 Waste treatment methods

Product: It is prohibited to remove with normal waste. It should be a special disposal in accordance with local regulations. Avoid runoff into watercourses and drains. Contact disposers.

Removing of residues: The waste is stored separately. Because of possible pollution, remove as industrial waste or hazardous waste (Ur. L. RS 84/98, 45/00, 20/01, 13/03 and 34/08).

Contaminated packaging: Packaging must be disposed of in the same manner as product. Do not burn packaging.

Classification number of waste: 16 03 05 \* organic wastes containing dangerous substances

Contaminated packaging category: 15 01 11\* Metallic packaging containing a dangerous solid porous matrix (eg asbestos), including empty pressure containers.

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<b>SECTION 14: Transport Information</b>			
	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	UN 1950		
<b>14.2 UN proper shipping name</b>	Aerosols, flammable		
<b>14.3 Transport hazard class(es)</b>			
Class	2		
Classification code	5F	/	/
Label(s)	2.1	/	/
Hazard identification	/	/	/
Transport category (Tunnel restriction code)	2 (D)	/	/
EmS	/	/	/
<b>14.4 Packing group</b>	/		
<b>14.5 Environmental hazards</b>	No environmental hazard		
<b>14.6 Special precautions for user</b>	No special precautions		
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	No data available		

### **SECTION 15: Regulatory information**

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

Product is classified in accordance with directive EC 1907/2006 and 1272/2008 and additional changes or national legislation Ur.l. RS 101/2002 and Ur.l.RS 16/2008.

#### **15.2 Chemical safety assessment**

No data available from component's supplier.

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### **SECTION 16: Other information**

#### *Revision:*

Version 08 issued on January 2020 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

#### *Legend of abbreviations:*

ADR – European agreement concerning the international carriage of dangerous goods by road

CAS – Chemical Abstracts Service

CLP – Classification, Labeling and Packaging

CMR – Carcinogenic, Mutagenic or toxic for Reproduction

DNEL - Derived no-effect level

EC<sub>50</sub>: Half maximal effective concentration

EmS – Emergency Schedule

GHS – Globally Harmonised System of Classification and Labeling of Chemicals

IATA – International Air Transport Association

IMDG – International Maritime Dangerous Goods Code

LC<sub>50</sub>: Lethal concentration, 50%

LD<sub>50</sub>: Median lethal dose; the dose causing 50% lethality

MARPOL – International convention for the prevention of pollution from ships

NOEC - No-observed-effect concentration

OEL - Occupational exposure limit

OECD - Organisation for Economic Co-operation and Development

PBT – Persistent Bioaccumulative Toxic

PNEC: Predicted no-effect concentration

Ppm – parts per million

REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals

RID – Regulation concerning the international carriage of dangerous goods by rail

vPvB – very Persistent and very Bioaccumulative

#### *References:*

Safety data sheets of the substances for the product

Directive EC 1907/2006 and 1272/2008 with all amendments and implementations

Council Directive 98/24/EC with all implementations and amendments

Official Gazette RS, No. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18, 78/19;

Directive 2008/98/EC with all amendments, Official Gazette RS 37/15, 69/15.

Martindale: The Extra Pharmacopoeia, 13. edition

European convention about international transport of hazardous material ADR

- Dangerous Goods Regulations (DGR) for the air transport (IATA)

International Maritime Dangerous Goods Code IMDG

#### *Disclaimer of expressed and implied warranties:*

The information contained in the safety data sheet have been translated from the manufacturer, revised in accordance with the Slovenian legislation. Guidelines for the safe use, handling, disposal, storage and transportation and cannot be used as a guarantee.

## Safety Data Sheet

The information relates only to the specific product and is not suitable for combining with other materials or for use in another process as described in the instructions.