

## SAFETY DATA SHEET

### 1. Name of material / Company trade mark:

- 1.1 Commercial name of product: **MODELHART SPRAY**
- 1.2 Intended use: For hardening the model from investment material when duplicating with silicon. For professional use in dental laboratory only.
- 1.3 Producer: **INTERDENT d.o.o.** *PRODUCTION*  
Address: **Opekarniška cesta26** **INTERDENT d.o.o.**  
**SI-3000 Celje** **Dol 1**  
**SI-3342 Gornji Grad**  
Phone number: **+386 (0) 3 425-62-00**  
Fax: **+386 (0) 3 425-62-10**
- 1.4 Emergency calls **+386 (0) 3 425-62-00** from 8h-16h between working time

### 2. Possible dangerous effect:

2.1 *Classification in accordance with Directive EU 67/548/EGS or 1999/45/ES*

*Dangerous Phase: R10-R66-R67*

*Health harmful dangerous:* Irritate eyes, causes skin dryness, long term inhalation can cause sleepiness or dizziness. See chapter 11

*Environment harmful dangerous:* See chapter 12

*Physical / Chemical hazardous:* When using steam is released, mixed with air is flammable / explosive, so do not smoke.

2.2 *Classification in accordance with ES 1272/2008*

*Elements for label*



*Symbols for warning of danger:*

*Warning word: Attention*

*Phrase for danger:* H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation  
H336 Can cause sleepiness and dizziness.

## SAFETY DATA SHEET

*Additional phrase of danger EUH066:* Repeated exposure may cause skin dryness or Cracking.

*Phrase for danger*

*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.

*Storing*

P410+P412 Protect from sunlight. Not expose on temperature over 50°C/122°F

*Response*

P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.

*Removing:*

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

Dangerous components, which should be put on the label:

**N-butyl acetate, propan-2-ol**

*Other dangerous*

Results of PBT and vPvB are given in Chapter 12.5

3. Ingredient / Ingredient information:					
Chemical name	Index number EC number CAS number	% Composition	Classification in accordance with Directive ES 1272/2008		Classification 67/548/EGS
n-butyl acetate	607-025-00-1 204-658-1 123-86-4	<80	Dangerous class/dange rous category	Dangerous phrase	R10-66-67
			Flam.liq.3 STOT SE3	H226 H336	
Propan-2-ol	603-117-00-0 200-661-7 67-63-0	<50	Flam.liq.3 Eye irrit.2 STOT SE3	H225 H319 H336	R11-36-67

Residue in product: resin<30%

Complete text of R phrases is in chapter 16.

Complete text of H- statements is in chapter 16.

## SAFETY DATA SHEET

### 4. Measures for first aid:

#### 4.1 Description for measures for first aid

**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.

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

**Contact with eyes:** 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 suffocation or chemical pneumonia. In the case of vomiting install injured in the recovery position.

#### 4.2 The most important symptoms and effects, acute or belated

**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).

#### 4.3 Statement of any other immediate medical nursing or special treatment

Symptomatic treatment: other data not available.

### 5. Fire-fighting measures:

#### 5.1 Extinguishing media

**Suitable:** CO<sub>2</sub>, powder, water spray, alcohol-resistant foam. Fight larger fires with water spray or foam alcohol-resistant.

**Unsuitable:** Voluminous sprayed jet of water.

#### 5.2 Special dangerous connected to composition

## SAFETY DATA SHEET

*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 fire brigade

*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.

## 6. Measures in the event of unintentional release:

*6.1 Personal precautionary measures:* wear protective clothing. Ensure un protective people. Take care for providing fresh air into space. Keep away from source of fire. Prevent from skin and eyes contact. Do not inhale vapour.

*6.2 Environment protection measures:* Do not allow to enter subsoil/earth. Do not allow to enter sewer system / surface waters / groundwater.

### 6.3 Methods and material for cleaning:

*Cleaning procedure/removing:*

Absorb overflow with an inert material that absorbs liquid (eg. Sand, diatomaceous earth, blotting paper, earth). Sticky residue purify 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 Refer to other chapters

See chapter 8 for information about protective clothing. See chapter 13 for information about waste.

## 7. Handling and storage:

## SAFETY DATA SHEET

### 7.1 Instruction 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 for eyes must be nearby.

### 7.2 Storage:

**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 extinguish – 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 use:

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

## 8. Exposure control and personal protective equipment:

### 8.1 Control parameters:

Chemical name: N-butyl acetate

#### **The limit value under which a substance has no effect level (DNEL)**

Workers, systemic effects, Inhalation, short-term exposure:	960mg / m3
Workers, local effects inhalation, short-term exposure:	960mg / m3
Workers, systemic effects, inhalation, long-term exposure:	480mg / m3
Workers, local effects, inhalation, long-term exposure:	480mg / m3
Population, systemic effects, inhalation, short-term exposure:	859,7mg / m3
Population, local effects, inhalation, short-term exposure:	859,7mg / m3
Population, systemic effects, inhalation, long-term exposure:	102,34mg / m3
Population, local effects, inhalation, long-term exposure:	102,34mg / m3

#### **For seen concentration without effect (PNEC)**

Fresh water: 0.18 mg / l

Sea water: 0,018mg / l

## SAFETY DATA SHEET

Venting in intervals: 0,36mg / l

Waste water treatment plant for sewage: 35.6 mg / l

The sediment in fresh water associated with the dry weight: 0,981 mg / kg

The sediment in the sea linked to the dry weight: 0,0981mg / kg

Soil related to dry weight: 0.0903 mg / kg

### Chemical name: Propan-2-ol

#### The limit value under which a substance has no effect level (DNEL)

Workers, long term systematic effect, skin contact: 888 mg/kg KW/day

Workers, long term systematic effect, inhalation: 500 mg/m<sup>3</sup>

Users, long term systematic effect, skin contact: 319 mg/kg KW/day

Users, long term systematic effect, inhalation: 89 mg/m<sup>3</sup>

Users, long term systematic effect ingestion: 26mg/kg KW/day

#### For seen concentration without effect (PNEC)

Fresh water: 140,9mg / l

Sea water: 140,9 mg / l

Venting in intervals: 140,9mg / l

Waste water treatment plant for sewage: 2251 mg / l

The sediment in the sea linked to the dry weight: 552 mg / kg

Soil related to dry weight: 28 mg / kg

Secondary poisoning connected to food: 160 mg/kg

### 8.2 Control of expose to the working place

#### Maximal permissible concentration on working place:

Chemical name: **Butyl acetate:**

SI OEL Timed average

100ppm, 480mg/m<sup>3</sup>

Chemical name: **Propan-2-ol**

SI OEL timed average

200 ppm, 500 mg/m<sup>3</sup>

#### Personal protection:

*Respiratory protection:* Not necessary with proper use.

*Skin and body protection:* Protective clothing.

*Eye protection:* Protective glasses

*Hand protection:* Gloves resistant against solvent. F.e. nitrile, a minimum thickness of 0.2 mm neoprene

## SAFETY DATA SHEET

*Common protection and*

*Hygienic measures:* Take off dirty and contaminated clothing immediately. Do not breathe gas, vapour or aerosol. At work do not eat, drink or sniff. Wash hands during breaks and at the end of work.

### 8.3 Control of environment protection:

*Common instructions:* Do not rinse with fresh water or to drainage system. If the aquaduct or drainage system is contaminated, inform the competent authorities immediately.

## 9. Physical and chemical properties:

### Information for n-butyl acetate

Aggregation:	liquid
Colour:	colourless
Smell:	aromatic
Boiling point:	126°C(1,013kPa)
pH:	no information
Inflammation point:	27°C
Flammability:	415°C
Upper explosion limit :	7,5% (V)
Lower explosion limit:	1,2% (V)
Oxidation:	no information
Vapour pressure	15kPa (20°C)
Solubility:	no information
Solubility in water:	no information
Division coefficient:	n-octanol/water
Viscosity:	0,73mPa·s (20°C)
Vapour density:	not available
Evaporation rate:	not available

### Information for propan-2-ol

pH:	neutral
Boiling point:	82° C
Inflammation point:	12° C
Flammability:	no available information
Upper limit of explosion:	12%(vol)
Lower limit of explosion:	2% (vol)
Oxidation:	no available information
Vapour pressure:	48hPa (20°C)
Density:	0,785g/cm <sup>3</sup>

## SAFETY DATA SHEET

Solubility in water: mix with water in every proportion  
Segregation coefficient: n-octanol-water: log Kow 0,05 (OECD test directive 107)  
value from literature  
Viscosity: 2,43m·Pa s (20°C)  
Vapour density: no available information  
Evaporation rate: no available information

### **Information for Modelhart spray**

*Solubility in water:* insoluble  
*Density:* 0,9 g/mL (20°C) – value for product

## **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 Hazardous reaction*

Hazardous reaction: No information

### *10.4 Conditions to be avoided:*

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 Non-compatible material:*

Materials to be avoided: 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.

## **11. Toxicological data :**

### *11.1 Information on toxicological effects*



## SAFETY DATA SHEET

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:* LD50 (rat): 10760mg/kg (OECD 423)

*Acute toxicity-Dermal:* LD50 (rabbit) > 14112mg/kg (OECD test Directive 402)

*Acute toxicity – Inhalational:* LC50 (rat): 23,4mg/l, 4 hour (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*

*Acute toxicity- Oral:* LD50 (rat): 5840mg/kg (OECD 401)

*Acute toxicity-Dermal:* LD50 (rabbit) > 13900mg/kg (OECD test Directive 402)

*Acute toxicity – Inhalational:* LC50 (rat): 25,0mg/l, 6 hour, vapour (OECD test Directive 403)

**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 not valid for humans.

## SAFETY DATA SHEET

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

### 12. Ecological information:

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

#### 12.1 Ecotoxicity

**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 Mobility in soil

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

**Mobility:** No information

#### 12.3 Persistence and degradability

**Effect duration:** no information available

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

#### 12.4 Bioaccumulation

**Bioaccumulation :** no information

### 12.1 Eco toxicity

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

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

**Acute toxicity for daphnia and other aquatic invertebrates:** LC50: 9714 mg/l  
(*daphnia magna*;24h)

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

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

## SAFETY DATA SHEET

### 12.2 Mobility

Product is mobile in environment

### 12.3 Persistence and degradability:

*Effect duration:* no information available

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

*Bioaccumulation:* Not expectable

### 12.4 Results of the assessment of PBT and vPvB

Not recognized as persistent, bio accumulative or poison (OBS)

Not recognized as very persistent or very bio accumulative (zOzB)

### 12.5 Other adverse effects

Do not rinse in aquaducte or drainage system.

Prevent the penetration into the soil.

## 13. Disposal consideration:

### 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.

## 11. Transport information:

## SAFETY DATA SHEET

14.1 UN number: 1866

14.2 Proper name of delivery: ADR: resin solvent  
RID: resin solvent  
IMDG: resin solvent  
IATA: resin solvent

14.3 Dangerous class of transport

**ADR class: 3**

Classification code: F1

Packaging group: II

Label: 3

Tunnel restriction code: (D / E)

**RID class: 3**

(labels, code (nr.) classification; danger):3,F1;33

**IMDG class: 3**

(Labels, EmS): 3; F-E; S-D

**IATA class: 3**

14.4 Packaging from group

ADR: II

RID: II

IMDG: II

IATA: II

14.5 Environmental Hazard

Labelling in accordance with 5.2.1.8 DR: no

Classification according to RID 5.2.1.8: no

Classification according to 5.2.1.6.3. IMDG: no

Classification as environmentally hazardous according to 2.9.3 IMDG: no

Code "P" according to 2.10 IMDG: no

14.6 Special precautions for user

Note: not applicable

<b>15. Regulatory information:</b>
------------------------------------

## SAFETY DATA SHEET

*15.1 Regulations / legislation on health, safety and environment specific for the substance or mixture:*

The product is classified and labeled in accordance with EC directives 1907/2006 and 1272/2008, and its amendments or respective national laws Official Gazette RS 101/2002 and 16/2008 Ur.I.RS.

Elements for label



Symbols for warning of danger:

Warning word: ATTENTION

*Phrases for danger:*

H226 Flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

EUH066: Repeated exposure may cause skin dryness or cracking .

P210 Keep away from heat / sparks / open flames / hot surfaces.-Smoking prohibited

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.

P303 + P361 + P353 IF ON SKIN (or hair): Remove / Take off all contaminated clothing. Rinse skin with water / shower.

P410+P412 Protect from sunlight. Do not expose on temperature over 50°C/122°F

P501 Remove the product and the package in accordance with local regulations!

Component, which must be listed on the label: **n-butyl acetate, propan-2-ol**

### 15.2 Chemical Safety

At the moment there is no information from the supplier of n-butyl acetate.

Assessment of chemical hazards to isopropyl alcohol is carried out.

### 16. Other information

The information contained in the safety data sheet refer to the manufacturer's current knowledge and are a guideline for the safe use, handling, disposal, storage and transportation, but cannot be used as a guarantee. 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.

## SAFETY DATA SHEET

Complete text of R-phrases: R10: Flammable; R66 Repeated exposure may cause skin dryness or cracking; R67 vapours may cause drowsiness and dizziness.

Complete text of H-phrases

H225 Highly flammable liquid and vapour

H319 Causes serious eye irritation

H336 can cause drowsiness and dizziness.

Additional notice hazard statement EUH066: Repeated exposure may cause skin dryness or cracking "

P233 keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment..

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P271 Use only outdoors or in a well-ventilated area.

P370+P378 In case of fire: Use ,CO2, powder, water spray, alcohol-resistant foam for extinction. Extinguish larger fires with water spray or foam alcohol-resistant. .

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

### *Precautionary Statement*

#### *Storage:*

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

*Sources:* Safety data sheets of producer of basic material in product

Regulation ES 1272/2008

Martindale: The Extra Pharmacopeia, 13. Version

European agreement on international road transport of dangerous goods.