

**DD coloring liquids**

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

DD coloring liquids (DD Basic Shade / DD Pro Shade Z / DD Pro Shade C / DD Art Elements)

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

DD coloring liquids are indicated for coloring of pre-sintered Dental Direkt Zirconia milling blanks for the manufacture of dental restorations.

**Uses advised against**

No information available.

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

Company name:	Dental Direkt GmbH	
Street:	Industriezentrum 106-108	
Place:	D-32139 Spenge	
Telephone:	05225 - 8 63 19-0	Telefax: 05225 - 8 63 19-99
e-mail:	info@dentaldirekt.de	
Contact person:	main office	Telephone: 05225 - 8 63 19-0
Internet:	www.dentaldirekt.de	
Responsible Department:	info@dentaldirekt.de	

**1.4. Emergency telephone number:**

+49 (0) 761 19240 (VIZ Freiburg)

**Further Information**

No information available.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Causes skin irritation.

Causes serious eye damage.

May cause respiratory irritation.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

Erbium(III)-chloride

Iron(III)-chloride Hexahydrate

**Signal word:** Danger**Pictograms:****Hazard statements**

H315

Causes skin irritation.

H318

Causes serious eye damage.

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H335 May cause respiratory irritation.

### Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER/doctor.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of this material and its container to hazardous or special waste collection point.

### 2.3. Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

No information available.

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
10138-41-7	Erbium(III)-chloride			<50 %
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			
10025-77-1	Iron(III)-chloride Hexahydrate			<10 %
	Met. Corr. 1, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H290 H302 H315 H318			
7647-01-0	hydrogen chloride			<1 %
	231-595-7	017-002-00-2		
	Acute Tox. 3, Skin Corr. 1A; H331 H314			

Full text of H and EUH statements: see section 16.

#### Further Information

No information available.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### After inhalation

Remove person to fresh air and keep comfortable for breathing. In case of respiratory tract irritation, consult a physician.

#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. If skin irritation occurs: Get medical advice/attention.

#### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water. Get medical advice/attention if you feel unwell.

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

No information available.

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

No information available.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>). alcohol resistant foam. Water spray jet**Unsuitable extinguishing media**

High power water jet

**5.2. Special hazards arising from the substance or mixture**

No information available.

**5.3. Advice for firefighters**

Co-ordinate fire-fighting measures to the fire surroundings. The product itself does not burn. In case of fire:

Wear self-contained breathing apparatus.

**Additional information**

Do not allow run-off from fire-fighting to enter drains or water courses.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protection equipment. Wear suitable gloves. Do not breathe gas/vapour/aerosol. Provide adequate ventilation.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

Wipe up with absorbent material (eg. cloth, fleece). Wash with plenty of water.

**6.4. Reference to other sections**

See protective measures under point 7 and 8. Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Avoid contact with eyes and skin.

See section 8.

**Advice on protection against fire and explosion**

No information available.

**Further information on handling**

No information available.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep only in the original container in a cool, well-ventilated place. Protect from sunlight.

Maximum storage temperature: 25°C

**Advice on storage compatibility**

No information available.

**Further information on storage conditions**

No information available.

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### 7.3. Specific end use(s)

Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7647-01-0	hydrogen chloride			
Worker DNEL, long-term		inhalation	local	8 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	15 mg/m <sup>3</sup>

#### PNEC values

CAS No	Substance	Value
7647-01-0	hydrogen chloride	
Freshwater		0,036 mg/l
Marine water		0,036 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls

Technical ventilation of workplace

#### Protective and hygiene measures

Work in well-ventilated zones or use proper respiratory protection.

Only wear fitting, comfortable and clean protective clothing.

Wash hands before breaks and after work.

Separate storage of work clothes.

#### Eye/face protection

Suitable eye protection:

Eye glasses with side protection

goggles

#### Hand protection

Suitable gloves type:

NBR (Nitrile rubber) DIN EN 374,

Butyl caoutchouc (butyl rubber) DIN EN 374,

NR (natural rubber, natural latex).

Wear cotton undermitten if possible.

Breakthrough times and swelling properties of the material must be taken into consideration.

#### Skin protection

Protective clothing.

#### Respiratory protection

No information available.

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### SECTION 9: Physical and chemical properties

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

Physical state: liquid  
 Colour:  
 Odour: characteristic

#### Test method

pH-Value: not determined

#### Changes in the physical state

Melting point: not determined  
 Initial boiling point and boiling range: not determined  
 Sublimation point: not determined  
 Softening point: not determined  
 Pour point: not determined  
 Flash point: not applicable

#### Flammability

Solid: not applicable  
 Gas: not applicable

#### Explosive properties

not explosive according to EU A.14

Lower explosion limits: not applicable  
 Upper explosion limits: not applicable

#### Auto-ignition temperature

Solid: not determined  
 Gas: not determined

Decomposition temperature: not determined

#### Oxidizing properties

No information available.

Vapour pressure: not determined

Density: not determined

Bulk density: not determined

Water solubility: easily soluble

#### Solubility in other solvents

No information available.

Partition coefficient: not applicable

Viscosity / dynamic: not determined

Vapour density: not determined

Evaporation rate: not determined

#### 9.2. Other information

No information available.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No information available.

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### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

No information available.

### 10.5. Incompatible materials

No information available.

### 10.6. Hazardous decomposition products

No information available.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicokinetics, metabolism and distribution

No information available.

#### Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name			
	Exposure route	Dose	Species	Source
10025-77-1	Iron(III)-chloride Hexahydrate			
	oral	ATE 500 mg/kg		
7647-01-0	hydrogen chloride			
	inhalative vapour	ATE 3 mg/l		
	inhalative aerosol	ATE 0,5 mg/l		

#### Irritation and corrosivity

Causes skin irritation.

Causes serious eye damage.

#### Sensitising effects

Based on available data, the classification criteria are not met.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

#### STOT-single exposure

May cause respiratory irritation. (Erbium(III)-chloride)

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

No information available.

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

No information available.

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### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 12.6. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Dispose of waste according to applicable legislation.

#### Contaminated packaging

Dispose of waste according to applicable legislation. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### Land transport (ADR/RID)

#### 14.1. UN number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Inland waterways transport (ADN)

#### 14.1. UN number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Marine transport (IMDG)

#### 14.1. UN number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### Air transport (ICAO)

#### 14.1. UN number:

No dangerous good in sense of this transport regulation.

#### 14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

#### 14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

#### 14.4. Packing group:

No dangerous good in sense of this transport regulation.

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

### 14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

## SECTION 15: Regulatory information

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

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**National regulatory information**

Water contaminating class (D): 1 - slightly water contaminating

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road )  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer  
(Regulations Concerning the International Transport of Dangerous Goods by Rail )  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
EC50: Effect concentration, 50 percent  
DNEL: Derived No Effect Level  
PNEC: Predicted No Effect Concentration  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.

**Further Information**

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.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*