

**DD Incisal X – X2**

Revision date: 02.06.2021

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

DD Incisal X – X2

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

Restricted to professional users.

DD Incisal X – X2 is a liquid for coloring and individualizing up to four adjacent units in the anterior region for bridges with up to 14 units as well as single tooth restorations, manufactured from DD Bio ZX<sup>2</sup> color or DD cube ONE® ML zirconia milling blanks, for the fabrication 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**

+49 (0) 761 19240 (VIZ Freiburg)

**number:****Further Information**

No information available.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:

Oxidising liquid: Ox. Liq. 2

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

May intensify fire; oxidiser.

Causes severe skin burns and eye damage.

Causes serious eye damage.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

**2.2. Label elements****GB CLP Regulation****Hazard components for labelling**

Ytterbium nitrate pentahydrate

Neodymium(III) nitrate, hexahydrate (1:3:6)

Erbium trichloride

**Signal word:** Danger

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**Pictograms:**

**Hazard statements**

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.
P310	Immediately call a POISON CENTER/doctor.
P391	Collect spillage.

**2.3. Other hazards**

Results of PBT and vPvB assessment: not applicable

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
35725-34-9	Ytterbium nitrate pentahydrate	45 - < 50 %
	629-677-6	
	Ox. Sol. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H318 H400 H410	
16454-60-7	Neodymium(III) nitrate, hexahydrate (1:3:6)	1 - < 5 %
	677-724-4	
	Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H318 H400 H410	
10138-41-7	Erbium trichloride	1 - < 5 %
	233-385-0	
	05-2114142254-59	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335	

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
16454-60-7	677-724-4	Neodymium(III) nitrate, hexahydrate (1:3:6)	1 - < 5 %
		oral: LD50 = 2750 mg/kg	
10138-41-7	233-385-0	Erbium trichloride	1 - < 5 %
		oral: LD50 = 4417 mg/kg	

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**Further Information**

No information available.

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Wear personal protection equipment (refer to section 8).  
Take off immediately all contaminated clothing and wash it before reuse.  
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.  
If unconscious but breathing normally, place in recovery position and seek medical advice.

**After contact with skin**

Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.  
After contact with skin, wash immediately with plenty of water and soap.  
Wash contaminated clothing prior to re-use.  
Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

**After contact with eyes**

Protect uninjured eye.  
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.  
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Immediately call a POISON CENTER/doctor/.  
Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Never give anything by mouth to an unconscious person or a person with cramps.  
Do NOT induce vomiting.  
Remove person to fresh air and keep comfortable for breathing.

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

Causes severe burns.

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

First Aid, decontamination, treatment of symptoms.

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

Full water jet

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

May intensify fire; oxidiser.  
Do not inhale explosion and combustion gases.  
In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon dioxide, Carbon monoxide

**5.3. Advice for firefighters**

Co-ordinate fire-fighting measures to the fire surroundings.  
In case of fire: Wear a self-contained breathing apparatus and chemical protective clothing.

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**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Residues of fire and contaminated water have to be disposed according to the local regulations.  
Dispose of waste according to applicable legislation.

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

See protective measures under point 7 and 8.  
Wear personal protection equipment (refer to section 8).  
Avoid contact with skin, eyes and clothes.  
Clear spills immediately.  
provide inert absorbent.  
Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray.

**For non-emergency personnel**

Remove persons to safety.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.  
Cover drains.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

Large amounts of spillages:  
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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

**For cleaning up**

Cleaning agent: none Solvent

**Other information**

Provide adequate ventilation.  
Collect in closed and suitable containers for disposal.  
Treat the recovered material as prescribed in the section on waste disposal.

**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****Advice on safe handling**

See section 8.  
Wear personal protection equipment (refer to section 8).  
Keep container tightly closed.  
Avoid contact with skin, eyes and clothes.  
Keep out of reach of children.  
Provide adequate ventilation.  
In case of inadequate ventilation wear respiratory protection.  
Avoid release to the environment. Clear spills immediately.  
Avoid: aerosol or mist formation

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**Advice on protection against fire and explosion**

EMKG

May intensify fire; oxidiser.

Keep away from clothing and other combustible materials.

Keep away from sources of ignition - No smoking.

**Advice on general occupational hygiene**

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Wear suitable protective clothing, gloves and eye/face protection.

Only wear fitting, comfortable and clean protective clothing.

Used working clothes should not be worn outside the work area.

Remove contaminated, saturated clothing immediately.

Wash contaminated clothing prior to re-use.

When using do not eat, drink, smoke, sniff.

Avoid contact with eyes and skin.

Wash hands and face before breaks and after work and take a shower if necessary.

Apply skin care products after work.

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

Do not breathe gas/vapour/aerosol.

Provide eye shower and label its location conspicuously

Make available sufficient washing facilities

**Further information on handling**

Handle and open container with care.

Read label before use. Observe technical data sheet.

**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. Keep locked up and out of the reach of children.

Only allow access to authorised staff.

Keep container tightly closed.

storage temperature:  $\leq 25^{\circ}\text{C}$ ;  $\leq 77^{\circ}\text{F}$ 

Provide for retaining containers, e.g. floor pan without outflow.

**Hints on joint storage**

Keep away from food, drink and animal feedingstuffs.

Keep away from: Acids, alkalines, Oxidizing agent, Keep away from clothing and other combustible materials.

**Further information on storage conditions**

Keep away from: Heat

**7.3. Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

Tightly sealed safety glasses. goggles DIN EN 166

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**Hand protection**

Tested protective gloves must be worn: EN ISO 374

Suitable material: NBR (Nitrile rubber), NR (natural rubber, natural latex), Butyl caoutchouc (butyl rubber).

Thickness of the glove material, Breakthrough times and swelling properties of the material must be taken into consideration. Observe the wear time limits as specified by the manufacturer.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Check leak tightness/impermeability prior to use.

**Skin protection**

Use of protective clothing (liquid-tight)

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

**Respiratory protection**

Respiratory protection necessary at: exceeding exposure limit values; vapour-, aerosol or mist formation  
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

**Environmental exposure controls**

Cover drains.

Clear spills immediately.

Provide for retaining containers, e.g. floor pan without outflow.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	green
Odour:	characteristic

**Changes in the physical state**

Boiling point or initial boiling point and boiling range:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
Flash point:	No data available

**Flammability**

Solid/liquid:	No data available
Gas:	No data available

**Explosive properties**

No data available

Lower explosion limits:	No data available
Upper explosion limits:	No data available
Auto-ignition temperature:	No data available

**Self-ignition temperature**

Solid:	No data available
Gas:	No data available

Decomposition temperature:	No data available
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**Oxidizing properties**

Oxidizing liquids

pH-Value: 1-2

Viscosity / dynamic: No data available

Water solubility: No data available

**Solubility in other solvents**

No information available.

Partition coefficient n-octanol/water: No data available

Vapour pressure: No data available

Vapour pressure: No data available

Density: 1,5 g/cm<sup>3</sup>

Relative vapour density: No data available

Particle characteristics: No data available

**9.2. Other information****Information with regard to physical hazard classes**

Sustaining combustion: No data available

**Other safety characteristics**

Solvent separation test: No data available

Solvent content: No data available

Solid content: No data available

Evaporation rate: No data available

**Further Information**

No information available.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

May intensify fire; oxidiser.

**10.4. Conditions to avoid**

Keep away from sources of ignition - No smoking.

**10.5. Incompatible materials**

Acids, alkalines, Oxidizing agent

Keep away from clothing and other combustible materials.

**10.6. Hazardous decomposition products**In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl), Carbon dioxide, Carbon monoxide**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No information available.

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#### Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
16454-60-7	Neodymium(III) nitrate, hexahydrate (1:3:6)					
	oral	LD50 2750 mg/kg	Rat			
10138-41-7	Erbium trichloride					
	oral	LD50 4417 mg/kg			RTECS: KD8575000	

#### Irritation and corrosivity

Causes severe skin burns and eye damage.  
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

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

#### 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 further relevant information available.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
16454-60-7	Neodymium(III) nitrate, hexahydrate (1:3:6)					
	Acute fish toxicity	LC50 2 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		EU Method C.1

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

No information available.

### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

not applicable

### 12.6. Endocrine disrupting properties

No information available.

### 12.7. Other adverse effects

No information available.

#### Further information

strongly hazardous to water  
Avoid release to the environment.

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**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

This material and its container must be disposed of as hazardous waste.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

110106 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY; wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising); acids not otherwise specified; hazardous waste

**Contaminated packaging**

Packing which cannot be properly cleaned must be disposed of. Dispose of waste according to applicable legislation.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number:</b>	UN 1477
<b>14.2. UN proper shipping name:</b>	NITRATES, INORGANIC, N.O.S. (Ytterbium nitrate pentahydrate)
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg
Hazard No:	50
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number:</b>	UN 1477
<b>14.2. UN proper shipping name:</b>	NITRATES, INORGANIC, N.O.S. (Ytterbium nitrate pentahydrate)
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Classification code:	O2
Limited quantity:	1 kg

**Marine transport (IMDG)**

<b>14.1. UN number:</b>	UN 1477
<b>14.2. UN proper shipping name:</b>	NITRATES, INORGANIC, N.O.S. (Ytterbium nitrate pentahydrate)
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Marine pollutant:	pp
Limited quantity:	1 kg
EmS:	F-A, S-Q
Segregation group:	1 - acids

**Air transport (ICAO-TI/IATA-DGR)**

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<b>14.1. UN number:</b>	UN 1477
<b>14.2. UN proper shipping name:</b>	NITRATES, INORGANIC, N.O.S. (Ytterbium nitrate pentahydrate)
<b>14.3. Transport hazard class(es):</b>	5.1
<b>14.4. Packing group:</b>	II
Hazard label:	5.1
Limited quantity Passenger:	2.5 kg
IATA-packing instructions - Passenger:	558
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	562
IATA-max. quantity - Cargo:	25 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	Ytterbium nitrate pentahydrate, Neodymium(III) nitrate, hexahydrate (1:3:6)

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 2012/18/EU (SEVESO III): P8 OXIDISING LIQUIDS AND SOLIDS

Additional information: E1

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Classification according to Regulation (EC) No 1272/2008 [CLP]

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

**Additional information**

Germany

Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV)

Gesetz zum Schutz vor gefährlichen Stoffen (Chemikaliengesetz - ChemG)

Gesetz über Medizinprodukte (Medizinproduktegesetz - MPG)

Verordnung zum Schutz vor Gefahrstoffen (Gefahrstoffverordnung - GefStoffV)

Technische Regeln für Gefahrstoffe (TRGS): 201, 220, 400, 401, 402, 500, 509, 510, 555, 800, 900

**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)

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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: Effectice concentration, 50 percent  
 DNEL: Derived No Effect Level  
 PNEC: Predicted No Effect Concentration  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Ox. Liq. 2; H272	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

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

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### 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.)*