

## VITA YZ LIQUIDS

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

#### 1.1 PRODUCT IDENTIFIER

1.1.1 COMMERCIAL PRODUCT NAME

VITA YZ HT/ST/XT SHADE LIQUIDS / YZ EFFECT

1.1.2 PRODUCT IDENTIFIER

LIQUIDS EZ0Cxyyyy(y), EZ0Cxxxxx

(ausgenommen EZ0C18110, EZ0C18350, EZ0C18920)

1.2 RELEVANT IDENTIFIED USES FOR THE SUBSTANCE OR MIXTURE

1.2.1 IDENTIFIED USES

Liquid Dye for Zircon

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

1.3.1 MANUFACTURER

Zirkonzahn srl, Via An der Ahr 7, IT 39030 Gais

1.3.2 SUPPLIER

Zirkonzahn srl, Via An der Ahr 7, IT 39030 Gais

1.3.3 TOX EMERGENCY CALL

+39 0474 066 660

### 2. HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

2.1.1 GHS-US CLASSIFICATION

Skin corrosion/irritation H314 Causes severe skin and eye damage  
burns Category 1A

Serious eye damage/eye H318 Causes serious eye damage  
damage

Irritation Category 1

Specific target organ H335 May cause respiratory  
toxicity (single exposure) irritation

Category 3

Full text of H statements: see section 16

2.2 GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

2.2.1 LABELLING IN ACCORDANCE GHS-US LABELING

2.2.1.1 HAZARD PICTOGRAMS (GHS-US)



GHS05



GHS07

2.2.1.2 SIGNAL WORD (GHS-US)

DANGER

2.2.1.3 HAZARD STATEMENTS (GHS-US)

H314 – Causes severe skin burn and eye damage

H318 – Causes serious eye damage

H335 – May cause respiratory irritation

2.2.1.4 PRECAUTIONARY STATEMENTS (GHS-US)

P260 – Do not breathe mist, vapors, spray

P264 – Wash hands, forearms and face thoroughly after handling

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

P280 – Wear protective gloves, protective clothing, eye protection, face protection

P301+P330+P331 – If swallowed: rinse mouth. Do NOT

2.3 OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION  
2.4 UNKNOWN ACUTE TOXICITY (GHS-US)

induce vomiting  
P303+P361+P353 – If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 – If inhaled: Remove person to fresh air and keep comfortable for breathing  
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, a doctor  
P321 – Specific treatment (see ... on this label)  
P363 – Wash contaminated clothing before reuse  
P403+P233 – Store in a well-ventilated place. Keep container tightly closed  
P405 – Store locked up  
P501 – Dispose of contents/container to an approved waste disposal plant  
No additional information available  
Not applicable

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 SUBSTANCES Not applicable  
3.2 MIXTURES

Denomination	Proportion (% weight)	CAS – No.	Classification
Iron (III) nitrate nonahydrate	5 - 20	7782-61-8	Ox. Sol. 3, H272 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3; H335
Erbium trinitrate hydrate	25 - 70	100641-14-3	Ox. Sol. 2, H272 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3; H335
Neodymium trinitrate hexahydrate	25 - 50	16454-60-7	Ox. Sol. 3, H272 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3; H335

Full text of hazard classes and H-statements: see section 16

### 4. FIRST AID MEASURES

4.1 DESCRIPTION  
4.1.1 EYE CONTACT Rinse eyes with water as a precaution. Immediately call a poison center or doctor/physician.  
4.1.2 SKIN CONTACT Wash skin with plenty of water. Call a physician immediately.  
4.1.3 INGESTION Call a poison center/doctor/physician if you feel unwell.  
4.1.4 INHALATION Remove person to fresh air and keep comfortable for breathing.  
4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS (ACUTE AND DELAYED) May cause severe burns.  
4.3 IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NECESSARY Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

5.1 SUITABLE EXTINGUISHING DEVICES	Water spray. Dry powder. Foam. Carbon dioxide.
5.2 UNSUITABLE EXTINGUISHING DEVICES	No information available
5.3 SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	Reactivity: The product is non-reactive under normal conditions of use, storage and transport.
5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS	Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	
6.1.1 FOR NON-EMERGENCY PERSONNEL	Emergency procedures: Ventilate spillage area. Do not breathe mist, vapors, spray.
6.1.2 FOR EMERGENCY RESPONDERS	Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
6.2 ENVIRONMENTAL PRECAUTIONS	Avoid sub-soil penetration. Prevent entry to sewers and public waters. Avoid release to the environment.
6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP	
6.3.1 METHODS FOR CLEANING UP	Take up liquid spill into absorbent material. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
6.3.2 OTHER INFORMATION	Disposal must be done according to official regulations.
6.4 REFERENCE TO OTHER SECTIONS	Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

## 7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING	Ensure good ventilation of the work station. Wear personal protective equipment.
7.2 HYGIENE MEASURES	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.3 STORAGE	Store in a well-ventilated place. Keep cool.
7.4 INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY	Keep away from food, drink and animal feeding stuffs.
7.5. SPECIAL RULES ON PACKAGING	Keep only in original container. Store in a closed container.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS	Iron (III) nitrate nonhydrate (7782-61-8) – not applicable
8.2 APPROPRIATE ENGINEERING CONTROL	Ensure good ventilation of the work station.
8.3 ENVIRONMENTAL EXPOSURE CONTROLS	Avoid release to the environment. Avoid sub-soil penetration. Do not allow into drains or water courses.
8.4 INDIVIDUAL PROTECTION MEASURES/PERSONAL PROTECTIVE EQUIPMENT	
8.4.1 PERSONAL PROTECTIVE EQUIPMENT	Corrosionproof clothing
8.4.2 MATERIALS FOR PROTECTIVE CLOTHING	Acid-resistant clothing
8.4.3 HAND PROTECTION	Wear suitable gloves resistant to chemical penetration. EN 374. Choosing the proper glove is a decision that depends not only

8.4.4 EYE PROTECTION

8.4.5 SKIN AND BODY PROTECTION

8. 4.6 RESPIRATORY PROTECTION

on the type of material, but also on other quality features, which differ for each manufacturer. The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves must be replaced after each use and whenever signs of wear or perforation appear  
 Sealed safety goggles

Wear suitable protective clothing

Not required for normal conditions of use. In case of insufficient ventilation, wear suitable respiratory equipment



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

9.1.1 FORM	Liquid
9.1.2 COLOUR	Different according to colouring
9.1.3 ODOUR	Odourless
9.1.4 ODOUR THRESHOLD	No data available
9.1.5 pH	1,40 – 4,80
9.1.6 FREEZING POINT	Not data available
9.1.7 MELTING POINT	Not applicable
9.1.8 BOILING POINT	Not data available
9.1.9 FLASH POINT	No data available
9.1.10 RELATIVE EVAPORATION RATE (BUTYL ACETATE = 1)	Not data available
9.1.11 FLAMMABILITY (SOLID, GAS)	Not applicable
9.1.12 VAPOR PRESSURE	Not data available
9.1.13 RELATIVE VAPOR DENSITY AT 20°C	Not data available
9.1.14 RELATIVE DENSITY	Not data available
9.1.15 SOLUBILITY	Not data available
9.1.16 LOG POW	Not data available
9.1.17 AUTO-IGNITION TEMPERATURE	Not data available
9.1.18 DECOMPOSITION TEMPERATURE	Not data available
9.1.19 VISCOSITY, KINEMATIC	Not data available
9.1.20 VISCOSITY, DYNAMIC	Not data available
9.1.21 EXPLOSION LIMITS	Not data available
9.1.22 EXPLOSIVE PROPERTIES	Not data available
9.1.23 OXIDIZING PROPERTIES	Not data available
9.2 ADDITIONAL INFORMATION	No additional information available

## 10. STABILITY AND REACTIVITY

## 10.1 REACTIVITY

The product is non-reactive under normal conditions of use, storage and transport.

## 10.2 CHEMICAL STABILITY

Stable under normal conditions.

## 10.3 POSSIBLE DANGEROUS REACTIONS

No dangerous reactions known under normal conditions of use.

## 10.4 CONDITIONS TO AVOID

None under recommended storage and handling conditions (see section 7)

## 10.5 INCOMPATIBLE MATERIALS

Strong bases.

## 10.6 HAZARDOUS DECOMPOSITION

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**11. TOXICOLOGICAL INFORMATION**

## 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

## 11.1.1 ACUTE TOXICITY

Not classified (Based on available data, the classification criteria are not met)

**Iron (III) nitrate nonahydrate (7782-61-8)****LD50 oral rat****3250 mg/kg body weight****ATE US (oral)****3250 mg/kg body weight**

## 11.1.2 SKIN CORROSION/IRRITATION

Causes severe skin burns and eye damage.

## 11.1.3 SERIOUS EYE DAMAGE/IRRITATION

pH: 1,40 – 4,80

Causes serious eye damage

## 11.1.4 RESPIRATORY OR SKIN SENSITISATION

pH: 1,40 – 4,80

Not classified

## 11.1.5 GERM CELL MUTAGENICITY

(Based on available data, the classification criteria are not met)

## 11.1.6 CARCIOGENICITY

Not classified

(Based on available data, the classification criteria are not met)

## 11.1.7 REPRODUCTIVE TOXICITY

Not classified

(Based on available data, the classification criteria are not met)

## 11.1.8 SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE

Not classified

(Based on available data, the classification criteria are not met)

## 11.1.9 SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE

May cause respiratory irritation

## 11.1.10 ASPIRATION HAZARD

Not classified

(Based on available data, the classification criteria are not met)

Not classified

(Based on available data, the classification criteria are not met)

**12. ECOLOGICAL INFORMATION**

## 12.1 TOXICITY

Ecology – general: Before neutralisation, the product may represent a danger to aquatic organisms. May cause pH changes in aqueous ecological systems.

## 12.2 PERSISTENCE AND DEGRADABILITY

Not applicable for inorganic substances.

## 12.3 BIOACCUMULATIVE POTENTIAL

Not applicable for inorganic substances.

## 12.4 MOBILITY IN SOIL

Ecology – soil: May cause pH changes in aqueous ecological systems.

## 12.5 OTHER ADVERSE EFFECTS

Effect on the global warming: No known effects from this product.

GWPMix comment: No known effects from this product.

### 13. DISPOSAL CONSIDERATIONS

13.1 DISPOSAL METHODS

Waste treatment methods: Disposal must be done according to official regulations. Comply with applicable regulations. Do not discharge into drains or the environment.

### 14. TRANSPORT INFORMATION

14.1 DEPARTMENT OF TRANSPORTATION (DOT)  
IN ACCORDANCE WITH DOT

14.1.1 TRANSPORT DOCUMENT DESCRIPTION

UN2801 Dyes, liquid, corrosive, n.o.s., 8, II

14.1.2 UN-No. (DOT)

UN2801

14.1.3 PROPER SHIPPING NAME (DOT)

Dyes, liquid, corrosive, n.o.s.

14.1.4 CLASS (DOT)

8 – Class 8 – Corrosive material 49 CFR 173.136

14.1.5 PACKING GROUP (DOT)

II – Medium Danger

14.1.6 HAZARD LABELS (DOT)

8 – Corrosive



14.1.7 DOT PACKAGING NON BULK (49 CFR 173.xxx)

202

14.1.8 DOT PACKAGING BULK (49 CFR 173.xxx)

242

14.1.9 DOT SYMBOLS

G-Identifies PSN requiring a technical name

14.1.10 DOT SPECIAL PROVISIONS (49 CFR 172.102)

11 - The hazardous material must be packaged as either a liquid or a solid, as appropriate, depending on its physical form at 55 C (131 F) at atmospheric pressure. B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.

IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

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14.1.11 DOT PACKAGING EXCEPTIONS (49 CFR 173.xxx)

14.1.12 DOT QUANTITY LIMITATIONS PASSENGER AIRCRAFT/RAIL (49 CFR 173.27)

1 L



Human Zirconium Technology

14.1.13 DOT QUANTITY LIMITATIONS CARGO AIRCRAFT ONLY (49 CFR 175.75)	30 L
14.1.14 DOT VESSEL STORAGE LOCATION	A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel
14.1.15 EMERGENCY RESPONSE GUIDE (ERG) NUMBER	154
14.1.16 OTHER INFORMATION	No supplementary information available.
14.1.17 TDG	Not applicable
14.1.18 TRANSPORT BY SEA	
14.1.18.1 TRANSPORT DOCUMENT DESCRIPTION (IMDG)	UN 2801 DYE, LIQUID, CORROSIVE, N.O.S. (Iron(III) nitrate nonahydrate; Chromic nitrate nonahydrate; Praseodymium(III) nitrate hexahydrate; Erbium trinitrate hydrate; Neodymium trinitrate hexahydrate), 8, II
14.1.18.2 UN-No. (IMDG)	2801
14.1.18.3 PROPER SHIPPING NAME (IMDG)	DYE, LIQUID, CORROSIVE, N.O.S.
14.1.18.4 CLASS (IMDG)	8 - Corrosive substances
14.1.18.5 PACKING GROUP (IMDG)	II - substances presenting medium danger
14.1.18.6 LIMITED QUANTITIES (IMDG)	1 L
14.1.19 AIR TRANSPORT	
14.1.19.1 TRANSPORT DOCUMENT DESCRIPTION (IATA)	UN 2801 Dye (intermediate), liquid, corrosive, n.o.s. (Iron(III) nitrate nonahydrate; Chromic nitrate nonahydrate; Praseodymium(III) nitrate hexahydrate; Erbium trinitrate hydrate; Neodymium trinitrate hexahydrate), 8, II
14.1.19.2 UN-No. (IATA)	2801
14.1.19.3 PROPER SHIPPING NAME (IATA)	Dye (intermediate), liquid, corrosive, n.o.s.
14.1.19.4 CLASS (IATA)	8 – Corrosives
14.1.19.5 PACKING GROUP (IATA)	II – Medium Danger

## 15. REGULATORY INFORMATION

15.1 US FEDERAL REGULATIONS	SARA Section 311/312 Hazard Classes – Not listed All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
15.2 INTERNATIONAL REGULATIONS	No additional information available
15.3 US STATE REGULATIONS	California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## 16. OTHER INFORMATION

## FULL TEXT OF H-PHRASES

<b>H272</b>	May intensify fire; oxidizer
<b>H314</b>	Causes severe skin burns and eye damage
<b>H315</b>	Causes skin irritation
<b>H318</b>	Causes serious eye damage
<b>H319</b>	Causes serious eye irritation
<b>H335</b>	May cause respiratory irritation

## ABBREVIATIONS AND ACRONYMS

ADN: European agreement concerning the international carriage of dangerous goods by inland waterways  
ADR: European agreement concerning the international carriage of dangerous goods by road  
ATE: Acute toxicity estimate  
BCF: Bioconcentration factor  
CLP: Classification labelling packaging regulation; Regulation (EC) No 1272/2008  
DMEL: Derived minimal effect level  
DNEL: Derived-No effect level  
DPD: Dangerous preparations directive 1999/45/EC  
GHS: Globally harmonized system of classification and labelling of chemicals  
IARC: International agency for research on cancer  
EC50: Median effective concentration  
IATA: International air transport association  
IMDG: International maritime dangerous goods  
LC50: Median lethal concentration  
LD50: Median lethal dose  
LOAEL: Lowest observed adverse effect level  
NOAEL: No-Observed adverse effect level  
NOEC: No-Observed effect concentration  
OECD: Organisation for economic Co-operation and development  
PBT: Persistent bioaccumulative toxic  
PNEC: Predicted No-Effect concentration  
REACH: Registration, evaluation, authorisation and restriction of chemicals regulation (EC) No 1907/2006  
RID: Regulations concerning the international carriage of dangerous goods by rail  
SDS: Safety data sheet  
STP: Sewage treatment plant  
TLM: Median tolerance limit  
vPvB: Very persistent and very bioaccumulative

The aforementioned data correspond to our present state of knowledge and experience. The material safety data sheet serves as description of the products with regards to its necessary safety measures. The indications do not have the meaning of guarantees on properties.

**Department issuing data specification sheet:**

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