

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 27.02.2024

Version number 5 (replaces version 4)

Revision: 14.12.2022

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

1.1 Product identifier

Trade name Induline ZL-450**Article number:** 283430, 283431, 283432

1.2 Relevant identified uses of the substance or mixture and uses advised against

Technical function Plating agent

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Remmers GmbH

Bernhard-Remmers-Str. 13

D-49624 Lönigen / Germany

Tel.: +49(0)5432/83-0

Fax: +49(0)5432/3985

Remmers (UK) Limited

Unit 4 , Lloyds Court

Manor Royal, Crawley – West Sussex RH10 9QU

fon +44 (0) 1293 594 010

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Information department:

Product Safety department: Phone: +44 (0) 1293 594 010

Email: sales@remmers.co.ukk

1.4 Emergency telephone number:

National Poisons Information Service (NPIS):

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

24h-Transport Emergency Contact Phone Number:

within USA and Canada: 1-800-424-9300

outside USA and Canada: 001-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms

GHS02 GHS07

Signal word Danger**Hazard-determining components of labelling:**

n-butyl acetate

ethyl acetate

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains maleic anhydride, methyl methacrylate. May produce an allergic reaction.

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Determination of endocrine-disrupting properties Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Lacquer on the basis of the following fillers, resins and other components.

Dangerous components [% w/w]:		
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1 Reg.nr.: 01-2119485493-29-XXXX	n-butyl acetate Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	≥20-<30%
CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46-XXXX	ethyl acetate Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	≥10-<20%
CAS: 13463-67-7 EINECS: 236-675-5	titanium dioxide substance with a Community workplace exposure limit	≥5-<10%
CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32-XXXX	xylene Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	≥5-<10%
CAS: 1244733-77-4 EC number: 807-935-0 Reg.nr.: 01-2119486772-26-XXXX	Reaction products of phosphoryl trichloride and 2-methyloxirane (TCPP) Acute Tox. 4, H302; Aquatic Chronic 3, H412	≥1-<2.5%

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CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29-XXXX	2-methoxy-1-methylethyl acetate Flam. Liq. 3, H226; STOT SE 3, H336	≥0.5-≤1%
CAS: 80-62-6 EINECS: 201-297-1 Index number: 607-035-00-6 Reg.nr.: 01-2119452498-XXXX	methyl methacrylate Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	≥0.25-≤0.5%
CAS: 108-31-6 EINECS: 203-571-6 Index number: 607-096-00-9 Reg.nr.: 01-2119472428-31-XXXX	maleic anhydride Resp. Sens. 1, H334; STOT RE 1, H372; Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1A, H317, EUH071 Specific concentration limit: Skin Sens. 1A;H317: C ≥ 0.001 %	≥0.00025-<0.001%

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Immediately remove any clothing soiled by the product.

After inhalation

In case of respiratory tract or mucous membrane irritation (e.g. tussive irritation), if you feel unwell or prolonged exposure, seek medical attention.

After skin contact

Do not use solvents or thinners!
Wash off immediately with water.

After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed

In case of prolonged/repeated exposure or in high concentrations:

Headache
Dizziness
nausea
tiredness
Dazed
Dry skin

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

For safety reasons unsuitable extinguishing agents Water with a full water jet.

5.2 Special hazards arising from the substance or mixture

Thick black smoke forms in fires. Inhalation of dangerous decomposition products may cause serious damage to your health.

Vapours are heavier than air and spread out over the ground. Ignition over greater distances is possible.

5.3 Advice for firefighters

Protective equipment:

Do not inhale explosion gases or combustion gases.
Wear full protective suit.

Additional information

Cool endangered containers with water spray jet.
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from ignition sources

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Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow to enter the ground/soil.

Inform responsible authorities in case product reaches bodies of water or sewage system.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well ventilated areas.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Ensure good ventilation/exhaust in workplaces.

Avoid the formation of aerosols.

Information about protection against explosions and fires:

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers: Store in cool location.

Information on storage in a common storage facility:

Suitable material for containers and pipes: Light metals and their alloys.

Further information about storage conditions:

Store container in a well ventilated position.

Keep container tightly closed.

Store cool and dry in tightly closed containers.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:	
CAS: 123-86-4 n-butyl acetate	
WEL	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
CAS: 141-78-6 ethyl acetate	
WEL	Short-term value: 1468 mg/m ³ , 400 ppm Long-term value: 734 mg/m ³ , 200 ppm
CAS: 13463-67-7 titanium dioxide	
WEL	Long-term value: 10* 4** mg/m ³ *total inhalable **respirable
CAS: 1330-20-7 xylene	
WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
CAS: 108-65-6 2-methoxy-1-methylethyl acetate	
WEL	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
CAS: 80-62-6 methyl methacrylate	
WEL	Short-term value: 416 mg/m ³ , 100 ppm Long-term value: 208 mg/m ³ , 50 ppm

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CAS: 108-31-6 maleic anhydride	
WEL	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ Sen
Ingredients with biological limit values:	
CAS: 1330-20-7 xylene	
BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid

Additional information: The lists that were valid during compilation were used as a basis.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures

Do not eat, drink or smoke while working.

Use skin protection cream for preventive skin protection.

Keep away from food, beverages and animal feed.

Immediately remove soiled, saturated clothing.

Wash hands before pauses and after work.

Avoid contact with eyes and skin.

The following indication regarding the personal protective equipment are to be considered as suggestions. The selection of the necessary personal protective equipment is to be evaluated by the employer depending on the types of operations and the local circumstances. If a risk assessment on-site shows that there is no risk for employees, the personal protective equipment is not required or the amount of the PPE can be adapted accordingly.

Respiratory equipment:

Short term filter device:

In case of brief exposure or low pollution load, use respiratory protection equipment with filter. In case of intensive or longer exposure, use self-contained respiratory protection equipment.

Hand protection

Solvent resistant gloves

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Butyl rubber, BR

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

Eye/face protection Tightly sealed safety glasses.

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Fluid

Colour:

White

Odour:

Pungent

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Odour threshold:	Not determined.
Melting point/freezing point:	Not determined
Boiling point or initial boiling point and boiling range	>35 °C
Flammability	Highly flammable.
Lower and upper explosion limit	
Lower:	1.1 Vol % (CAS: 1330-20-7 xylene)
Upper:	11.5 Vol % (CAS: 141-78-6 ethyl acetate)
Flash point:	-4 °C
Auto-ignition temperature:	not applicable
Decomposition temperature:	Not determined.
pH	Not determined.
Viscosity:	
Kinematic viscosity at 20 °C	95 s (DIN 53211/4)
dynamic:	Not determined.
Solubility	
Water:	Not miscible or difficult to mix
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure at 20 °C:	100 hPa (CAS: 141-78-6 ethyl acetate) 13 hPa
Density and/or relative density	
Density at 20 °C:	1.263 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
9.2 Other information	
Appearance:	
Form:	Fluid
Important information on protection of health and environment, and on safety.	
Explosive properties:	Product is not explosive. However, formation of dangerous explosive vapour/air mixtures is possible.
Solvent separation test	< 3 %
VOC EU	541.8 g/l
Change in condition	
Evaporation rate	Not determined.
Information with regard to physical hazard classes	
Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Highly flammable liquid and vapour.
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

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SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if handled and stored according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

LD/LC50 values that are relevant for classification:

CAS: 123-86-4 n-butyl acetate

Oral	LD50	14,000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)

CAS: 141-78-6 ethyl acetate

Oral	LD50	4,935 mg/kg (rabbit)
Inhalative	LC50/4 h	1,600 mg/l (rat) mg/l (rabbit)

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Causes serious eye irritation.

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

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

STOT-single exposure: May cause drowsiness or dizziness.

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.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties

For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects No further relevant information available.

Additional ecological information:

General notes:

Do not allow product to reach ground water, bodies of water or sewage system.

Hazardous to drinking water even if small quantities leak into soil.

SECTION 13: Disposal considerations

Recommendation

Liquid material remains are to be disposed of at collection facilities for old varnishes.

The given refuse codes are recommendations based upon the intended use of the product. Because of special use and disposal conditions at the user's, other codes may apply under other conditions.

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Do not dispose of together with household garbage. Do not allow product to reach sewage system.



European waste catalogue	
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Uncleaned packaging:**Recommendation:**

Disposal must be made according to official regulations.

Packaging can be reused or recycled after cleaning.

SECTION 14: Transport information

14.1 UN number or ID number ADR, IMDG, IATA	UN1263
14.2 UN proper shipping name ADR IMDG, IATA	1263 PAINT PAINT
14.3 Transport hazard class(es) ADR	
	
Class	3 (F1) Flammable liquids.
Label	3
IMDG, IATA	
	
Class	3 Flammable liquids.
Label	3
14.4 Packing group ADR, IMDG, IATA	II
14.5 Environmental hazards: Marine pollutant:	- No
14.6 Special precautions for user hazard identification number: EMS Number: Stowage Category	Warning: Flammable liquids. 33 F-E,S-E B
14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
Transport/Additional information:	
ADR Limited quantities (LQ) Excepted quantities (EQ)	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category Tunnel restriction code	2 D/E
IMDG Limited quantities (LQ)	5L

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Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1263 PAINT, 3, II

SECTION 15: Regulatory information

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

Poisons Act

Regulated explosives precursors	None of the ingredients is listed.
Regulated poisons	None of the ingredients is listed.
Reportable explosives precursors	None of the ingredients is listed.
Reportable poisons	None of the ingredients is listed.

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Seveso category P5c FLAMMABLE LIQUIDS

Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
None of the ingredients is listed.
Annex II - REPORTABLE EXPLOSIVES PRECURSORS
None of the ingredients is listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This data is based on our present state of knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally valid contractual relationship. Delivery specifications are found in the respective Technical Information Sheets.

Relevant phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

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EUH071 Corrosive to the respiratory tract.

Classification according to Regulation (EC) No 1272/2008 Calculation method**Department issuing data specification sheet:** Product Safety department / EHS**Version number of previous version:** 4**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1A: Skin sensitisation – Category 1A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3