

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

1.1 Product Identifier

Product form	Mixture
Product name	XRD nano ink Silver
Product code	
Type of product	Printing ink
Product Group	Trade product

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

1.2.1 Relevant identified uses

Main use category	Industrial use
Function or use category	Printing ink

1.2.2 Uses advised against

No additional information available

1.3 Details of the supplier of the safety data sheet

Manufacturer

1.4 Emergency telephone number

Emergency number	
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Section 2 Hazards identification

2.1 Classification of the substance/mixture

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

Flammable liquids, Category 2	H225
Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336

Adverse physicochemical, human health and environmental issues.

Highly flammable liquid and vapour. May cause drowsiness or dizziness. Causes severe eye irritation.

2.2 Label elements

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

Hazard pictograms (CLP)



GHS02

GHS07

Signal word (CLP)	Danger
Contains	Propyl acetate;ethyl acetate;ethyl alcohol;ethanol
Hazard statements (CLP)	H225 Highly flammable liquid and vapour H228 Highly flammable solid H319 Causes serious eye irritation H336 May cause drowsiness or dizziness
Precautionary statements (CLP)	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P233 Keep container tightly closed P240 Ground and bond container and receiving equipment P241 Use explosion-proof electrical/ventilation/lighting equipment P261 Avoid breathing dust/fume/gas/mist/vapours/spray P264 Wash hands, forearms and face thoroughly after handling

2.3 Other hazards.

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

This product does not contain substances included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%

Section 3 Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP
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Propyl acetate	CAS- No 109-60-4 EC No 203-686-1 EC index No 607-024-00-6 REACH no 01-2119484620-39	50-80	Flam liq 2 H225 Eye Irrit 2 H319 STOT SE 3 H336
Ethyl acetate Substance with a Community workplace exposure limit	CAS NO 141-78-6 EC No 205-500-4 EC Index No 607-022-00-5 REACH No 01-2119475103-46-xxxx	10-30	Flam liq 2 H225 Eye Irrit 2 H319 STOT SE 3 H336
Ethanol;Ethyl Alcohol	CAS No 64-17-5 EC No 200-578-6 EC Index No 603-002-00-5 REACH No 01-2119457610-43-xxxx, 01-2119475610-43-xxxx	5-10	Flam liq 2 H225 Eye Irrit 2 H319
Aluminium powder stabilised	CAS No 7429-90-5 EC No 231-072-3 REACH No 01-2119471330-49	1-7	Flam sol H228

Section 4 First aid measures

4.1 Description of fist aid measures

First-aid measure general	Get medical advise/attention if you feel unwell
First-aid measure after inhalation	Remove person to fresh air and keep comfortable for breathing
First-aid measures after skin contact	Rinse skin with water/shower. Take ff immediately all contaminated clothing
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists get medical advise/attention

First-aid measures after ingestion	Rinse mouth out with water. If swallowed seek medical advice immediately and show this container or label. Get medical advise/attention if you feel unwell.
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4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects	May cause drowsiness or dizziness
Symptoms/effects after eye contact	Eye irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

Section 5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry powder. Foam
Unsuitable extinguishing media	Carbon Dioxide (CO ₂), Do not use heavy water stream

5.2 Special hazard arising from the substrate or mixture

Fire hazard	Highly flammable liquid and vapour
Hazardous decomposition products in case of fire	Toxic fumes may be released

5.3 Advice for fire-fighters

Protection during fire-fighting	Do not attempt to take action without suitable protective equipment. Self contained breathing apparatus. Complete protective clothing.
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Section 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. No open flames, no sparks and no smoking. Avoid breathing dust/fumes/gas/mist/vapours/spray. Avoid contact with skin and eyes.
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6.1.2 For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. Further information refer to Section 8, "Exposure controls/personal protection.
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6.2 Environmental precautions

Avoid release to the environment

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	Take up liquid spill into absorbent material. Notify authorities if product enters sewers and public waters
Other information	Dispose of materials or solid residues at an authorised site

6.4 Reference to other section

For further information refer to section 13

Section 7 Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion proof equipment. Wear personal protective clothing. Use in a well ventilated area. Avoid breathing dust/fumes/gas/mist/spray/vapours. Avoid contact with skin or eyes
Handling temperature	18-30 Centigrade
Hygiene measures	Do not eat, drink, smoke when using this product. Always wash hands after handling this product.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures	Ground/Bond container and receiving equipment
Storage conditions	Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.

7.3 Specific end use(s)

No additional information available

Section 8 Exposure controls and personal protection

8.1 Control parameters

8.1.1 Occupational exposure and biological limit values

United Kingdom – Occupational exposure limits

N-Propyl-acetate/propyl-acetate (109-60-4)

WEL TWA (OEL TWA) [1]	849 Mg/M3
WEL TWA (OEL TWA) [2]	200 PPM
WEL STEL (OEL STEL)	1060 Mg/M3
WEL STEL (OEL STEL) [PPM}	250 PPM
Regulatory reference	EH40/2005 (forth addition, 2020) HSE

Ethyl acetate (141-78-6)

WEL TWA (OEL TWA) [1]	734 Mg/M3
WEL TWA (OEL TWA) [2]	200 PPM
WEL STEL (OEL STEL)	1468 Mg/M3
WEL STEL (OEL STEL) [PPM}	400 PPM
Regulatory reference	EH40/2005 (forth addition, 2020) HSE

Ethyl alcohol/Ethanol (64-17-5)

WEL TWA (OEL TWA) [1]	1920 Mg/M3
WEL TWA (OEL TWA) [2]	1000 PPM
Regulatory reference	EH40/2005 (forth addition, 2020) HSE

8.1.2 Recommended monitoring information

No additional information available

8.1.3 Air contaminants found

No additional information available

8.1.4 DNEL and PNEC

No additional information available

8.1.5 Control banding

No additional information available

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation of the work station

8.2.2 Personal protective equipment

Personal protective equipment symbols



8.2.2.1 Eye and face protection

Eye protection;

Safety glasses

8.2.2.2.

Skin protection

Skin and body protection

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3 Respiratory protection

Respiratory protection.

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4 Thermal hazards

No additional information available

8.2.3 Environmental exposure controls

Avoid release to the environment

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Silver
Odour	Characteristic
Odour threshold	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	78°C
Flammability	Highly flammable liquid and vapour
Explosive properties	In use may form flammable/explosive vapour/air mixture
Oxidising properties	Not oxidising
Explosive limits	Not available
Lower explosion limits	Not available
Upper explosion limits	Not available
Flash point	-4 °C
Auto ignition temperature	Not available
Decomposition temperature	Not available
pH	Not available
Viscosity, kinematic	Not available
Solubility	Insoluble in water
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Density	1 - 1.2
Relative density	Not available
Relative vapour density at 20°C	Not available
Particle characteristics	Not available

9.2 Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2 Other safety characteristics

No additional information available

Section 10 Stability and reactivity

10.1 Reactivity

Highly flammable liquid and vapour

10.2 Chemical stability

Stable under normal conditions

10.3

Possibility of hazardous reactions

No dangerous reactions known under normal conditions

10.4 Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5 Incompatible materials

No addition information available

10.6 Hazardous decomposition products

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

Section 11 Toxicological information

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

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Propyl acetate (109-60-40)

LD50 oral rat	9370 Mg/Kg
LD50 oral	8300 MG/Kg

Ethyl acetate (141-78-6)

LD50 oral rat	5620 Mg/Kg
LD50 oral	4100 MG/Kg

Cellulose nitrate (9004-70-0)

LD50 oral rat	>2000 Mg/Kg
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Ethanol; ethyl alcohol (64-17-5)

LD50 oral rat	10470 Mg/Kg
LD50 oral	3450 Mg/Kg
LD50 dermal rat	15800 Mg/Kg
LC50 inhalation	20 Mg/L/4H

Section 13 Disposal considerations

Waste treatment methods

Dispose of contents/container in accordance with licensed collectors sorting instructions

Addition information

Flammable vapours may accumulate in container

Section 14 Transport information

In accordance with ADR/IMDG/IATA/ADN/RID

ADR	IMDG	IATA	ADN	RID
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14.1 UN number or ID number

UN1210	UN1210	UN1210	UN1210	UN1210
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14.2 UN proper shipping name

PRINTING INK	PRINTING INK	PRINTING INK	PRINTING INK	PRINTING INK
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Transport document description

UN1210 PRINTING INK, 3, II, (D/E)	UN1210 PRINTING INK, 3, II,	UN1210 PRINTING INK, 3, II,	UN1210 PRINTING INK, 3, II,	UN1210 PRINTING INK, 3, II,
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14.3 Transport hazard class(es)

3	3	3	3	3
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14.4 Packaging group

II	II	II	II	II
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14.5 Environmental hazards

Dangerous for the environment ; No	Dangerous for the environment ; No Marine pollutant; No	Dangerous for the environment ; No	Dangerous for the environment ; No	Dangerous for the environment ; No
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