

Material name: JT-SO14

In Compliance with Regulation (EG) 1907/2006 (REACH) as Amended

1.0 Product Identifier**1.1 Material Name: JT-SO14****1.2 Uses of the Substance:** This product is a cartridge containing ink. Under normal conditions of use, the substance is released from a cartridge only inside an appropriate printing system, and therefore, exposure is limited.**Uses Advised Against:** None known**1.3 Company name:****iSQUARED AG**

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2.0 Hazards Identification**2.1 Classification**

Classification according to Regulation (EG) Nr. 1272/ 2008

Eye Damage	Category 2	H319
Skin Corrosion	Category 2	H315
Skin Sensitizer	Category 1	H317

Classification according to Directives 67/548/EWG and/or 1999/45/EG
R36/38 irritating to eyes and skin.**2.2 Label Elements:** Labeling according to Regulation (EC) 1272/2008/EC:
Symbol(s)**Signal Word:** Warning

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Hazard Statement(S)**H315** Causes skin irritation**H319** Causes serious eye irritation**H317** May cause an allergic skin reaction**Precaution Statement(s)****Prevention****P280** Wear protective gloves/ protective clothing/ eye protection/ face protection.**Response****P302 + P352 if on Skin:** Wash with plenty of soap and water.**P333 + P313 if skin irritation or rash occurs:** Get medical advice/ attention.**P363** Wash contaminated clothing before reuse.**P305 + P351 + P338 if in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P337 + P313** If eye irritation persists: Get medical advice/ attention.**Storage:** None needed according to classification criteria.**Disposal:** P501 Dispose of contents/ container in accordance with local/ regional/ national regulations.**Labelling according to Directive 67/548/EEC and/or 1999/45/EC****Symbols****XI****R36/38** Irritation to eyes and skin.**S2** Keep out of the reach of children.**S24** Avoid contact with skin.**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**S37** Wear suitable gloves.**S46** If swallowed, seek medical advice immediately and show this container label.**S60** This material and its container must be disposed of hazardous waste.

Contains: Phosphine Oxide, Diphenyl (2,4,6-Triymethylbenzoyl) - may cause allergic reactions.

2.3 Other Hazards: None known.

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3.0 Composition/ Information on Ingredients

CAS EC No. Registration No.	Component Synonyms	67/548 EEC (DSD)	1272/2008 (CLP)	Wt %
Proprietary	Acrylic Monomer	Xi; R:36/43	Skin Irrt.1 Eye Irrt.2	<20
Proprietary	Acrylic Oligomer	Xi; R:36/38	Skin Irrt.2 Eye Irrt.2	<20
57-55-6 200-338-0	Propylene Glycol			<50
25322-68-3 500-038-2 -	Polyethylene Glycol			<20
56-81-5 200-289-5	Glycerine			<30
Proprietary	Photo Initiator	Xi; R:43-53	Skin Sens.1 Aquatic Chronic 4	<1

Additional Information: Under normal conditions of use, the substance is released from a cartridge only inside an appropriate system, and therefore exposure is limited. The liquid within the cartridges is considered hazardous, and the MSDS has been prepared in case of exposure to the liquid.

4.0 First Aid Measures**Description of First Aid Measures:**

4.1 General Information: Ensure that eyewash stations and safety showers are close to workstation.

4.2 Inhalation: May cause respiratory irritation. Move affected person to fresh air. If respiratory irritation occurs, if breathing becomes difficult seek medical attention immediately.

4.3 Skin: May cause irritation or sensitization by skin contact, including redness and/or swelling. Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.

4.4 Eyes: Irritating to eyes. Causes redness, swelling and pain. Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

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4.5 Ingestion: Irritating to mouth, throat and stomach. If ingested, drink plenty of water and seek immediate medical attention. Do not induce vomiting.

4.6 Self-protection of the first aider: Put on appropriate protective equipment (see section 8). Move exposed person to fresh air. Remove contaminated clothing and shoes.

5.0 Fire Fighting Measures

5.1. Suitable extinguishing media: Water mist, dry chemical, carbon dioxide, or appropriate foam.

5.2 Extinguishing media which must not be used for safety reasons: High volume water jet.

5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: Thermal decomposition products can include CO₂, CO and smoke.

5.4 Special protective equipment for fire-fighters: Wear full protective clothing, including helmet, self-contained positive-pressure or pressure demand breathing apparatus, protective clothing and facemask.

5.5 Additional information: Move container from area if it can be done without risk. Cool containers with water spray. Avoid inhalation of material or combustion by-products.

6.0 Accidental Release Measures

Occupational Spill/ Release: Intact cartridges do not pose a leak or spill hazard. Damaged cartridges may leak uncured ink. Stop leak if possible without personal risk. Reduce vapors with water spray. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers.

6.1. Personal precautions: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing. Consult expert immediately.

6.2 Environmental precautions: Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. In case of contamination of aquatic environment inform local authorities.

6.3 Methods for cleaning up: Wear appropriate protective equipment and clothing. Absorb spillage with suitable absorbent materials. Place all waste in an appropriate container for disposal. The material and its container must be disposed of as hazardous waste. Keep away from sources of ignition.

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7.0 Handling and Storage

7.1 Handling: Provide adequate ventilation. Use suitable protective equipment. Avoid contact with skin and eyes. Do not breathe vapor or mist. Avoid ignition sources. Do not allow to enter drains or watercourses.

7.2 Storage: Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well ventilated place. Store out of direct sunlight or UV light sources. Storage temperature between 15 °C and 25 °C. Shipment temperatures (up to 5 weeks) is -20°C to 50°C.

8.0 Exposure Controls / Personal Protection

8.1 Control Parameters: Components Exposure Limits

1,2-PROPYLENGLYCOL (57-55-6)

Ireland:	150 ppm TWA (total vapour and particulates); 470 mg/m ³ TWA (total vapour and particulates); 10 mg/m ³ TWA (particulate)
Latvia:	7 mg/m ³ TWA
Lithuania:	7 mg/m ³ TWA
United Kingdom:	150 ppm TWA (total particulate and vapour); 474 mg/m ³ TWA (total particulate and vapour); 10 mg/m ³ TWA (particulate) 450 ppm STEL (calculated, total particulate and vapour); 1422 mg/m ³ STEL (calculated, total particulate and vapour); 30 mg/m ³ STEL (calculated, particulate) Polyethylene glycol (25322-68-3)

Polyethylene glycol (25322-68-3)

Austria:	1000 mg/m ³ TWA (average molecular weight 200-400, inhalable fraction) 4000 mg/m ³ STEL (average molecular weight 200-400, inhalable fraction, 4 X 15 min)
Germany (TRGS):	1000 mg/m ³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, average molecular weight 200-400 inhalable fraction, exposure factor 8)
Germany (DFG):	1000 mg/m ³ TWA MAK (average molecular weight 200-600, inhalable fraction) 8000 mg/m ³ Peak (average molecular weight 200-600, inhalable fraction)
Slovak Republic:	8000 mg/m ³ Ceiling 1000 mg/m ³ TWA
Slovenia:	4000 mg/m ³ STEL (MW 200-400, inhalable fraction) 1000 mg/m ³ TWA (inhalable fraction, MW 200-400)

Glycerine (56-81-5)

Belgium:	10 mg/m ³ TWA (mist)
Czech Republik:	15 mg/m ³ Ceiling
Estonia:	10 mg/m ³ TWA
Finland:	20 mg/m ³ TWA
France:	10 mg/m ³ TWA (Aerosol)
Germany (DFG):	50 mg/m ³ TWA MAK (inhalable fraction) 100 mg/m ³ Peak (inhalable fraction)
Greece:	10 mg/m ³ TWA
Ireland:	10 mg/m ³ TWA (mist)
Poland:	10 mg/m ³ TWA (Aerosol)
Portugal:	10 mg/m ³ TWA [VLE-MP] (mist)

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Spain: 10 mg/m³ TWA [VLA-ED] (mist)
United Kingdom: 10 mg/m³ TWA (mist)
 30 mg/m³ STEL (calculated, mist)
 10 mg/m³ TWA (mist)

8.2 Exposure Controls

Technical measures to prevent exposure: Use explosion-proof local exhaust ventilation.

Instruction measures to prevent exposure: When using, do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the day.

Personal protection equipment:

Respiratory protection: If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided.

Hand protection: Use impervious nitrile gloves.

Eye protection: Wear safety glasses or chemical goggles.

Body protection: Use apron and closed shoes.

9.0 Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical State	Liquid	Appearance	yellowish liquid ink
Color	yellowish	Physical Form	liquid
Odor	Characteristic odor	Odor Threshold	Not available
pH	Not available	Melting point	Not available
Boiling Point	Not available	Decomposition	Not available
Flash Point	Not available	Evaporation Rate	Not available
LEL	Not available	UEL	Not available
Vapor Pressure	Not available	Vapor Density (air=1)	Not available
Density	Not available	Specific Gravity (water=1)	Not available
Water solubility	Not available	Coeff. Water/ Oil Dist	Not available
Auto Ignition	Not available	Viscosity	Not available
Volatility	Not available		

10.0 Stability and Reactivity

10.1 Reactivity: Heating may cause a fire

10.2 Chemical Stability: Unstable on exposure to light. Unstable on exposure to heat.

10.3 Possibility of Hazardous Reactions: Uncured ink will polymerize on exposure to light.

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10.4 Conditions to Avoid: Avoid exposure to heat and light.**10.5 Incompatible Materials:** Not applicable under normal conditions.**10.6 Hazardous Decomposition Products****Thermal Decomposition Products****Combustion:** oxides of carbon**11.0 Toxicological Information****11.1 Information on Toxicological Effects****Acute and Chronic Toxicity:** No hazard is expected from the normal use of this product.**11.2 Component Analysis - LD50/ LC50**

Component	LD50 Oral	LD50 Dermal
1,2-Propylene glycol (57-55-6)	20000 mg/ kg (rat)	20800 mg/ kg (rabbit)
Polyethylene glycol (25322-68-3)	28 g/ kg (rat)	20 g/ kg (rabbit)
Glycerine (56-81-5)	12600 mg/ kg (rat)	21900 mg/ kg (rat)

The components of this product have been reviewed in various sources and the following selected endpoints are published.

Irritant and corrosive effects: Irritating**Irritation to respiratory tract:** NA**Sensitisation:** Causes sensitisation**11.3 Experiences made in practice:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.**11.4 General remarks: Carcinogenicity:** None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

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12.0 Ecological Information

12.1 Ecotoxicity: The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material may be toxic to aquatic organisms or cause long-term adverse effects in the aquatic environment. Prevent contamination of soil, drains and surface waters.

Component	Data
1,2 Propylene glycol (57-55-6)	Fish: LC50/ 96h - 51600 mg/l (Oncorhynchus mykiss) Fish: LC50/ 96h - 41 - 47 ml/l (Oncorhynchus mykiss) Algae: EC50/ 96 h - 19000 mg/L (Pseudokirchneriella subcapitata) Invertebrate: EC50/ 24 h - >10000 mg/l (Daphnia magna) Invertebrate: EC50/ 48 h - >1000 mg/l (Daphnia magna)
Polyethylene glycol (25322-68-3)	Fish: LC50/ 24h - >5000 mg/l (Carassius auratus)
Glycerine (56-81-5)	Fish: LC50/ 96h - 51 - 57 ml/l (Oncorhynchus mykiss) Invertebrate: EC50/ 24 h - >500 mg/l (Daphnia magna)

12.2 Mobility: No information available for product.

12.3 Persistence and degradability: No information available for product.

12.4 Results of PBT assessment: No information available for product

12.5 Other adverse effects: No information available for product

13.0 Disposal Considerations

13.1 Appropriate disposal / Product: Do not contaminate drains, soil or surface waters with this material or its container. Reduce waste by attempting to utilize product completely. Dispose of this container and its contents in accordance with all local, state, and federal regulations. Do not reuse or refill.

13.2 Additional information: Prior to disposal iSQUARED recommends consulting an approved waste disposal firm to ensure regulatory compliance.

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14.0 Transport Information**14.1 Transportation:** Not regulated as hazardous materials.**14.2 International BULK Chemical Code:** This material contains one or more of the following chemicals required by the IBC code to be identified as dangerous chemicals in bulk.**1,2 - PROPYLENGLYCOL (57-55-6)**

IBC-Code: Category Z

Polyethyleneglycol (25322-68-3)

IBC-Code: Category Z

15.0 Regulatory Information**15.1 Safety, Health and Environmental Regulations/ Legislation Specific for the Substances of Mixture****EU – REACH (1907/2006) – Annex XIV List of Substances Subjected to Authorisation**

No components of this materials are listed.

EU – REACH (1907/2006) – Article 59(1) Candidate List of Substances for Eventual Inclusion in Annex XIV

No components of this materials are listed.

EU – REACH (1907/2006) – Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles

No components of this materials are listed.

Germany Regulations**Germany Water Classifications****1,2-PROPYLENGLYCOL (57-55-6)**

ID Number 280, WGK 1 - low hazard to waters

Polyethylene glycol (25322-68-3)

ID Number 279, WGK 1 - low hazard to waters (footnote 11, >=4 EO)

Glycerol (56-81-5)

ID Number 116, WGK 1 - low hazard to waters

Phosphine oxide, Phenylbis (2,4,6-Trimethylbenzoyl)- (162881-26-7)

ID Number 2126, WGK 1 - low hazard to waters

Denmark Regulations**Envirometnal Protection Agency List of Undesirable Substances**

No component of this materials are listed

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15.2 EU-Inventory**Substances Analysis - Inventory**

Component	CAS	EEC
Acrylic Oligomer	--	NO
1,2-Propylene glycol	57-55-6	EIN
Polyethylene glycol	25322-68-3	NLP
Glycerine	56-81-5	EIN
Photo Initiator	.-	ELN
Acrylic acid ester	52408-84-1	NLP

15.3 Chemical Safety Assessment: No chemical safety assessment has been carried out for the substance.

16.0 Other Information**16.1 Relevant R-Phrases (number and full text) referred to in sections 2 and 3:**

R36: Irritating to eyes.

R36/38- Irritating to eyes and skin

R43: May cause sensitization by skin contact

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.2 Training Advice

Read the MSDS before handling the product.

DISCLAIMER OF LIABILITY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. iSQUARED Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.