



MATERIAL SAFETY DATA SHEET

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DATE PREPARED: 98/1/30
MSDS No.: RISO-MA026

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAMES: RISOGRAPH RA INK BLACK
ITEM CODE: s-569
MANUFACTURER:
NAME: RISO INC.
ADDRESS: 300 Rosewood Drive, Suite 210, Danvers, MA 01923
TELEPHONE NUMBER: 1 (978) 777-7377
SIGNATURE: *[Signature]*

Section 2 - COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE / MIXTURE: Mixture (Preparation)
CHEMICAL NATURE: Water-in-Oil-type emulsion
COMPONENTS:

	CAS No.	OSHA PEL	ACGIH TLV	Recommended	wt%
Petroleum solvent	64742-55-8, 64742-52-5	5 mg/m ³ *1	5 mg/m ³ *1	Not applicable	< 10
Glycerol	56-81-5	15 mg/m ³	10 mg/m ³	Not applicable	< 10
Aliphatic hydrocarbon	64742-47-8	None	None	(Combustible)	< 5
Carbon black (pigment)	1333-86-4	3.5 mg/m ³	3.5 mg/m ³	Not applicable	< 5
Others		None	None	Not applicable	>70

(Water, resin, emulsifier, pigment, additives)

*1 : as mineral oil mists

Section 3 - HAZARDS IDENTIFICATION

MOST IMPORTANT HAZARDS:

PHYSICAL AND CHEMICAL HAZARDS: Not flammable.
ADVERSE HUMAN HEALTH EFFECT: Mildly irritating if brought into contact with eyes and skin.
ENVIRONMENTAL EFFECTS: No information available

Section 4 - FIRST-AID MEASURES

EYE: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
SKIN: After contact with skin, wash immediately with plenty of water.
INHALATION: If you feel unwell, move from the contamination immediately to fresh air, and seek medical advice.
INGESTION: If swallowed, seek medical advice.

Section 5 - FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA:

CO₂, dry chemical foam, water fog or spray

SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURES:

Fire-fighters should wear proper protective equipment.
This ink does not act as a source of ignition, but might burn if involved in a fire.
Toxic gases (mainly carbon monoxide) may form upon combustion.
Move ink-cartridge (bottle) from fire areas if it can be done without risk.

Section 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Ventilate the area after material picked up is completely.
ENVIRONMENTAL PRECAUTIONS: Do not empty into the drains.
METHOD OF CLEANING UP:

Section 7 - HANDLING AND STORAGE

HANDLING:

TECHNICAL MEASURES: Use only in well ventilated areas.

SAFE HANDLING ADVICE: Not in particular. Use only with cartridge (bottle).

STORAGE: In order to keep ink efficient, store at 5 - 30 °C.

PACKAGING MATERIAL: Only original cartridge (bottle).

Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES (VENTILATION):

LOCAL EXHAUST: Not normally required

MECHANICAL (GENERAL): Recommended

SPECIAL: Not required

CONTROL PARAMETERS: Not available

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION: Not normally required

HAND PROTECTION: Not normally required

EYE PROTECTION: Not normally required

SKIN AND BODY PROTECTION: Not normally required

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

STATE: Viscous liquid

MELTING POINT: < 0 °C

BOILING POINT: > 100 °C

VAPOUR PRESSURE: 2338.1 Pa (20°C) (Water)

DENSITY: 1.015

WATER SOLUBILITY: Negligible

FAT SOLUBILITY: Not available

PARTITION COEFFICIENT: Not available

IGNITION TEMPERATURE: 450 - 600 °C (Estimated value)

FLASH POINT: Can not established (according to test results of similar inks)

EXPLOSIVE PROPERTIES: Not applicable

OXIDISING PROPERTIES: Not applicable

Section 10 - STABILITY AND REACTIVITY

CONDITION TO AVOID: Water vaporising temperature (roughly 100 °C)

MATERIALS TO AVOID: Strong oxidising agents

HAZARDOUS DECOMPOSITION PRODUCTS:

Toxic gases (carbon monoxide, carbon dioxide and smoke) may form upon combustion.

Section 11 - TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY: LD50 >= 5000 mg/kg [rat]

ACUTE EYE IRRITATION: Minimally and reversible irritating [rabbit]

ACUTE DERMAL IRRITATION: Mildly and reversible irritating [rabbit]

MUTAGENIC EFFECTS: Negative in the Ames test

SKIN SENSITISATION: Non-Sensitisation [Guinea-pig] (Maximization Test)

CARCINOGENIC EFFECTS: Carbon black listed group 2B (possibly carcinogenic to humans) in IARC Monograph, 65.

No relevant information of petroleum solvent is available in IARC Monograph. Although petroleum solvent is listed in Annex I of Directive 67/548/EEC, it is justified by Nota L not to classify it as carcinogens because it contains less than 3% DMSO extract.

EFFECTS OF OVEREXPOSURE: Usually vapour is not generated at high concentrations from petroleum solvents in this ink. But vapour or mist in unusually high concentrations from

Section 12: ECOLOGICAL INFORMATION

MOBILITY:	Not available	DEGRADABILITY:	Not available
BIOACCUMULATION:	Not available	ECOTOXICITY:	Not available

Section 13: DISPOSAL CONSIDERATIONS

METHOD OF DISPOSAL: Incineration is preferable.

CONTAMINATED PACKAGING: Material of ink-cartridge (bottle) are polypropylene (PP) and high-density polyethylene (HDPE).
Dispose to an authorised waste collection point.

Follow all state and local regulations concerning health and environmental pollution.

Section 14: TRANSPORT INFORMATION

IMDG CODE:	Not regulated	UN NUMBER:	Not regulated
RID:	Not regulated	ICAO/IATA-DGR:	Not regulated
ADR:	Not regulated	ADNR:	Not regulated

Section 15: REGULATORY INFORMATION

Follow all regulations in your country.

OSHA Hazard Communication Standard, 29CFR 1910.1200 :
This product is not considered hazardous under this standard.

TSCA (Toxic Substance Control Act) :
All chemical substances in these products are listed in TSCA chemical substance inventory(1994).

IARC (International Agency for Research on Cancer) :
Carbon black is listed in IARC Monograph (refer to Section 11).
No relevant information of petroleum solvent is available.

NTP (National Toxicology Program).
This product contains no chemical substances classed carcinogenicity.

ACGIH (American Conference of Governmental Industrial Hygienists) :
This product contains no chemical substances classed carcinogenicity.

EU regulation and administrative provisions relating to the classification, packaging and labelling of dangerous substances:
Based on available toxicological information, this product has no labelling requirements within the EU.
Petroleum solvent is listed in Annex I of Directive 67/548/EEC (refer to Section 11).
All chemical substances in these products are listed in EINECS (European Inventory of Existing Commercial Chemical Substances).

The information herein is given in good faith, but no warranty, express or imply, is made. Please consult RISO INC. for further information.