

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : R2635 RDE INK
Recommended use : Industrial applications. Inks for continuous inkjet processes
Company : Inkminic Logo Technology (Guangzhou) CO., LTD
Room 1601, No.4 Yichuang Street, Jiulong Town, Huangpu District, Guangzhou City,
Guangdong Province
Telephone number : +86 020-32954560
Website : www.inkminic.com
Emergency telephone number : +86 020-32954560

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation 29 CFR 1910.1200

Flammable liquid : Category 2
Serious eye damage/eye irritation : Category 1
Specific target organ toxicity - Single exposure : Category 3 (Narcotic effect)
Chronic hazards to the aquatic environment : Category 3

Label Elements

Signal word : Danger
Hazard statements : Highly flammable liquid and vapor.
Causes serious eye damage.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.
Precautionary statements
Prevention : Keep away from heat/sparks/open flames/hot surfaces. -No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Response : IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.
Rinse skin with water/shower.
In case of fire: Use an appropriate extinguishing agent for extinction.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Storage : Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Store locked up.

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Disposal : Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards : None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Mixture : Mixture

Ingredients

Components	CAS No	Concentration (wt%)
Butanone	78-93-3	60-70
Tetrabutylammonium tetrafluoroborate	429-42-5	10-20
7-Oxabicyclo[4.1.0]heptan-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	2386-87-0	2
titanium dioxide	13463-67-7	3

4. FIRST-AID MEASURES

Description of first aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention if you feel unwell.

Skin contact : Wash thoroughly with soap and plenty of water while removing all contaminated clothes.
If skin irritation or rash occurs: Get medical advice/attention.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to remove. Continue to rinse for at least 15 minutes.
Get medical attention immediately.

Ingestion : Wash mouth with water and seek medical advice immediately.
Do not induce vomiting.

Most important symptoms and effects, both acute and delayed

: No further relevant information available.

Recommendations for immediate medical care and special treatment needed

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂), Dry chemical, Alcohol-resistant foam, Water spray.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the substance or mixture

: Carbon oxides, nitrogen oxides will form in fire.

Special protective equipment for firefighters

: Wear suitable protective suit and self-contained breathing apparatus.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate personal protective equipment as specified in section 8.
- Keep unnecessary peoples away. Isolate area. Ensure adequate ventilation.

Environmental precautions : Do not release into soil, sewers, river, or the public water courses. Methods and materials for containment and cleaning up

- : In the case of a cartridge: Not applicable.
- At the time of the leakage of contents: Absorb or cover with dry earth, sand or other non-combustible material and transfer to sealable containers. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. HANDLING AND STORAGE

Handling

Handling

- : Put on appropriate personal protective equipment (see Section 8).
- Prohibition of dropping and throwing.
- Avoid contact with skin, eyes and clothing.
- Do not breathe vapors. Use only in a well-ventilated area.
- Use a ventilation, local exhaust if vapor or aerosol will be generated.
- Keep away from fire, sparks and heated surfaces.
- Take precautionary measures against electrostatic discharges.

Hygiene measures

- : When using do not eat or drink. Wash hands thoroughly after handling.

Storage

- : Do not store ink in high or freezing temperature.
- Keep away from heat and direct sunlight.
- Do not store ink with acids, oxidizing agents or explosives.
- Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Compo nents	CAS No.	OSHA	ACGIH TLV
Butanone	78-93-3	200 ppm, 590mg/m3	STEL: 3000 ppm
Tetrabutylammonium tetrafluoroborate	429-42-5	200 ppm, 500 mg/m3	TWA: 100 ppm
7-Oxabicyclo[4.1.0]heptan-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	2386-87-0	1000 ppm, 2400 mg/m3	TWA: 500 ppm STEL: 750 ppm
titanium dioxide	13463-67-7	100 ppm, 300 mg/m3	TWA: 20 ppm

Engineering controls

Engineering measures

- : Adequate ventilation should be provided so that exposure limits are not exceeded. Take precautionary measures against static discharge.

Personal protective equipment

Respiratory protection

- : In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection

- : Impermeable gloves.

Eye protection

- : Safety glasses with side-shields. Goggles.

Skin and body protection

- : Protective suit, Safety shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

- : Solvent type

Color

- : red

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Odor	: Ketone based flavor
pH	: 4.9 - 6.9
Melting point	: No data available
Boiling point	: -6 degree C
Flash point	: 15.6 degree C (Closed cup)
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Vapor density	: No data available
Relative density	: 0.805 (at 25 degree C)
Water solubility	: Insolubility
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available

10. STABILITY AND REACTIVITY

Reactivity	: No hazardous reactions with proper storage and handling.
Chemical stability	: The product is stable under normal conditions.
Possibility of hazardous reactions	: No hazardous reactions with proper storage and handling.
Conditions to avoid	: High temperature, heat, sparks, flames and other sources of ignition. Oxidizing condition.
Incompatible materials	: Acid and strong oxidizer can cause a reaction.
Hazardous decomposition products	: Carbon oxides, nitrogen oxides will form in fire.

11. TOXICOLOGICAL INFORMATION

Acute toxicity			
Acute toxicity (oral)	Butanone	LD50 (rat)	7,060 mg/kg
	1-Propanol	LD50 (rat)	3,830 mg/kg
	1-Butanol	LD50 (rat)	1,227 mg/kg (calculation value)
	PGMEA	LD50 (rat)	8,532 mg/kg
Acute toxicity (dermal)	Butanone	LDLo (rabbit)	20,000 mg/kg
	1-Propanol	LD50 (rabbit)	>10,000 mg/kg
Acute toxicity (inhalation)	Butanone	LC50 (rat)	63,000 ppm/4h
	1-Propanol	LC50 (rat)	>9.8 mg/l/4h
Skin corrosion/irritation	1-Propanol	(rabbit)	72h; Slight
	1-Butanol	(rabbit)	405 mg/24h; Moderate
Serious eye damage/eye irritation	1-Propanol	(rabbit)	72h; Severe
	1-Butanol	(rabbit)	1.62 mg; Severe
Respiratory or skin sensitization	1-Propanol	(guinea pig)	Non-sensitizing
Germ cell mutagenicity	No data available		
Carcinogenicity	NTP : Not listed.		
	IARC : Butanone: Group 1		
	EPA : 1-Butanol: D		
Reproductive toxicity			
Specific target organ systemic toxicity - Single exposure	: May cause drowsiness or dizziness.		

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Specific target organ systemic toxicity - : No data available
Repeated exposure
Aspiration hazard : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxicity to fish : LC50: 1690~5640mg/L (96h) (bluegill sunfish); 3200mg/L (96h)
(blackhead dullfish, pH 7.5); 1950mg/L (24h) (halophytes); <520mg/L
(48h) (daphnia, pH 8); 918~3349mg/L (48h) (daphnia, pH 7.21)
IC50: 110~4300mg/L (72h) (algae)
Biodegradability : Aerobic biodegradation: 24~168h
Anaerobic biodegradation: 96~672h
Non-biodegradability : Half-life of photo-oxidation in water: $1.80 \times 10^4 \sim 7.10 \times 10^5$ h
Half-life of photo-oxidation in air: 64.2~642h
Half-life of primary hydrolysis: >50a h

13. DISPOSAL CONSIDERATIONS

Appropriate disposal methods : Dispose of waste material in accordance with local, state and federal pollution regulations.
Contaminated packaging : When disposing of an empty container, dispose after removing contents materials completely. Dispose of this material and its container according to your country law.

14. TRANSPORT INFORMATION

Class : Class 3
UN number : 1210
Packing group : II
UN proper shipping name : Printing Ink

Sea transport

IMDG-
Code: Class : Class 3
UN number : 1210
Packing group : II
UN proper shipping name : Printing Ink
Marine pollutant : No

Air transport ICAO-

TI/IATA-DGR :
Class : Class 3
UN number : 1210
Packing group : II
UN proper shipping name : Printing Ink

Land transport

DOT :
Class : Class 3
UN number : 1210
Packing group : II
UN proper shipping name : Printing Ink