

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name Makeup TH-73
Name of company Hitachi Industrial Equipment Systems Co., Ltd
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2. COMPOSITION , INFORMATION ON INGREDIENTS

Substance/Mixture	Mixture		
Chemical name	CAS No	Composition (%)	
2-Butanone	78-93-3	80-90	
Ethanol	64-17-5	1-10	
Methanol	67-56-1	1-3	
n-Butanol	71-36-3	1-3	

3. HAZARDS IDENTIFICATION

Class name of hazardous chemicals for SDS in Japan

Flammable Liquids.

Physical and chemical hazardous Highly flammable liquids.

Adverse human health hazardous Irritating to eyes, respiratory system and skins.

4. FIRST AID MEASURES

Eye contact

Gently rinse the affected eyes with clean water for at least 15 minutes. Remove contact lenses if easily possible. and refer for medical attention.

Skin contact

Remove all contaminated clothing, shoes and socks from the affected areas as quickly as possible. Wash the affected area under running water using a mild soap. If irritation persists, arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

Inhalation

Remove the victim from the contamination immediately to fresh air. Keep the victim warm and quiet and arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

Ingestion

Never give anything by mouth to someone who is unconscious or convulsing. If the victim is responsive, give him one or two glasses of water. And refer for medical attention.

5. FIRE AID MEAFURES

Specific Hazards with regard to fire-fighting measure
fight fire from maximum distance.

Shut off fuel to fire if possible to do so without hazards.

Extinguishing media

Dry chemical powder, foam or dioxide.

6. ACCIDENTIAL RELEASE MEARURES

Shut off all sources of ignition; No smoking or flames in area. Absorb spill with inert material (e.g., dry sand or earth), then place in closed containers using non-sparking tools. Flush residual spill (area) with copious amounts of water.

7.HANDLING AND STORAGE

Handling

Use only in the well-ventilated areas.

Make available in the work area emergency shower and eyes wash.

Avoid contact with skin or eyes.

Storage

Close up the container and keep it in dark cool(0~20.) place.

Keep away from combustible materials and sources of ignition.

8.EXPOSURE CONTROL , PERSONAL PROTECTION

Exposure guidelines

2-Butanone	ACGIH	TLV	TWA	200ppm
			STEL	300ppm
Ethanol	OSHA	PEL	TWA	200ppm
			TLV	1000ppm
	ACGIH	PEL	TWA	1000ppm
			TLV	200ppm
Methanol	ACGIH	TLV	TWA	200ppm
			STEL	250ppm
	OSHA	PEL	TWA	200ppm
			STEL	250ppm
n-Butanol	ACGIH	TLV	TWA	20ppm
			OSHA	PEL

Engineering measure

Use exhaust ventilation to keep airborne concentration below exposure limit.

Personal protective equipment

Respiratory protection

Mask for organic solvent.

Eye protection

Protective glasses. Protective goggles.

Hand protection

Solvent proof gloves.

9.PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid
Odor	Irritant odor
Density	0.80-0.81(20.)
Boiling point	No measurement
Melting point	No measurement
Vapor pressure	9.5kPa(20.)
Flash point	-8.1.(Closed cup)
Autoignition temperature	Upper than 515.
Flammable limits	Lower 1.8% Upper 11.5%

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Conditions and materials to avoid	Not available
Hazardous decomposition products	These products are carbon oxides

11. TOXICOLOGICAL INFORMATION

2-Butanon

Acute Toxicity

Eye contact	(human)	350ppm	Irritant properties
Skin contact	(rabbit)	500mg/24h	Moderate irritant properties
Inhalation	TCL0 (human)	100ppm/5min	
Inhalation	LCL0 (rat)	2000ppm/4h	
Oral	LD50 (rat)	4050mg/kg	

Sub-chronic Toxicity

Rats exposed to 2150ppm for 6 weeks showed no adverse effects to nervous system disturbances.

Chronic Toxicity

Rats exposed to 1125ppm for 5 months showed no adverse effects to peripheral nervous system disturbances.

Mutagenic Effects

Sex chromosome loss and nondisjunction *S.cerevisiae*, 33,800ppm

Ethanol

Acute Toxicity

Oral	LD50	(rabbit)	6300mg/kg
	LD50	(guinea pig)	5560mg/kg
	LDL0	(human)	6000mg/kg
	LDL0	(mouse)	220mg/kg
	LDL0	(dog)	5500mg/kg
	LDL0	(cat)	6000mg/kg

Methanol

Acute Toxicity

Oral	LDL0	(human)	340mg/kg
	LDL0	(mouse)	420mg/kg
	LDL0	(dog)	6300mg/kg
	LDL0	(monkey)	7000mg/kg
	LDL0	(rabbit)	4750mg/kg
	TDL0	(human)	100mg/kg
Inhalation	LC50	(monkey)	1000ppm
	TCL0	(human)	300ppm

n-Butanol

Acute Toxicity

Oral	LD50	(rat)	790mg/kg
	LD50	(mouse)	2680mg/kg
Inhalation	LCL0	(rat)	8000ppm/4h
	TCL0	(mouse)	25ppm

12. ECOLOGICAL INFORMATION

No applicable information was found.

13. DISPOSAL CONSIDERATION

Scrap materials may be disposed by licensed contractor or burn in an approved incinerator. Do not dump into sewer, on the ground or into any body of water. Follow national and local regulations.

14. TRANSPORT INFORMATION

UN Class 3(Flammable liquids)

UN Number 1210

Follow all regulations in your country.

15. REGULATION INFORMATION

Follow all regulations in your country.

16. OTHER INFORMATION

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Prepared by Yoshiharu Takizawa
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