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Issued: 2008/05/16

MATERIAL SAFETY DATA SHEET**22128-XXXX****1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name Artline Drawing System
 EK-231,EK-232,EK-233,EK-234, EK-235,EK-238
 (Black)(Blue)(Red)(Green)
 General Use Drawing System Pen
 MSDS Number EA5003A-0101

MANUFACTURER

Company Name Shachihata Inc.
 Address 4-69,Amazuka-cho,Nishi-ku,Nagoya City,451-0021,Japan
 Telephone Number ++ 81 52 521 3600
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture	Mixture
Hazardous Ingredients	
Chemical or Common Name(s)	wt.%
	Black
	Other colors
	CAS(TSCA) Number
	EINECS Number
1,2-Ethanediol	10~20
Ethanol,2-(2-butoxyethoxy)-	<2
1,2,3-Propanetriol	—
Carbon black	1~10

Chemical or Common Name(s)	wt.%	Black	Other colors	CAS(TSCA) Number	EINECS Number
1,2-Ethanediol		10~20	1~10	107-21-1	203-473-3
Ethanol,2-(2-butoxyethoxy)-		<2	<2	112-34-5	203-961-6
1,2,3-Propanetriol		—	10~20	56-81-5	200-289-5
Carbon black		1~10	—	1333-86-4	215-609-9

EU symbol(s) and risk phrase(s) is specified in 15. REGULATORY INFORMATION.

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

May cause allergic skin reaction.

POTENTIAL HEALTH EFFECT

No data available

POTENTIAL ENVIRONMENTAL EFFECTS

No data available

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MATERIAL SAFETY DATA SHEET**4. FIRST AID MEASURES**

INHALATION Move to well ventilated place.
See medical advice immediately.

EYE Immediately flush with plenty of water.
See medical advice immediately.

SKIN Wipe off with dry cloth and wash with mild soap.
See medical advice immediately.

INGESTION See medical advice immediately.

PROTECTION TO FIRST – AIDERS
No data available

NOTE TO PHYSICIAN
Treatment may vary with condition of victim and specifics of incident.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
Flash Point Not applicable

EXTINGUISHING MEDIA
Dry chemical powder, foam or carbon dioxide.

FIRE FIGHTING INSTRUCTIONS
Wear full fire-fighting turn-out gear and respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL Wipe off with dry cloth.

WATER SPILL Contain spilled liquid with sand or earth.
Do not use combustible materials, such as sawdust.

7. HANDLING AND STORAGE

HANDLING : Use only in the well-ventilated areas.
Avoid contact with skin or eyes , or clothing.
Avoid inhalation and ingestion.
Avoid high temp. and fire.
Wash thoroughly after handling.

STORAGE : Store in a cool, dry, well-ventilated location.
Keep away from heat, sunlight.
Keep away from children.

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MATERIAL SAFETY DATA SHEET**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE LIMIT VALUES**

OSHA PEL (1994)	[1,2,3-Propanetriol]	TWA	15 mg/m ³
	[Carbon black]	TWA	3.5 mg/m ³
ACGIH TLV (2003)	[1,2-Ethanediol]	CL	100 mg/m ³ (H)
	[1,2,3-Propanetriol]	TWA	10 mg/m ³
	[Carbon black]	TWA	3.5 mg/m ³
EN LIMIT (2000/39/EN)	[1,2-Ethanediol]		
	eight hours	20 ppm (52 mg/m ³)	(skin)
	Short-term	40 ppm (104 mg/m ³)	(skin)

EXPOSURE CONTROLS**Occupational Exposure Controls****Engineering Controls**

Use exhaust ventilation to keep airborne concentration below exposure limits.

Personal Protection**Respiratory Protection**

Use with local exhaust ventilation, when in long use.

Hand Protection

Not required, but wear safety gloves, if necessary.

Eye Protection

Not required, but wear safety glasses, if necessary.

Skin Protection

To prevent ANY contact, wear impervious clothing such as gloves, apron, as appropriate.

Environmental Exposure Controls

Not established

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Physical state	Liquid
Odor	None
pH	8~10
Boiling Point / Boiling Range	No data available
Flash Point	Not applicable
Explosive Properties	No data available
Relative Density (g/cm ³)	1.0~1.1 g/cm ³
Solubility [Water]	soluble

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MATERIAL SAFETY DATA SHEET**10. STABILITY AND REACTIVITY**

CONDITIONS TO AVOID	No data available
STABILITY	No data available
MATERIALS TO AVOID	No data available
HAZARDOUS REACTIONS / DECOMPOSITION PRODUCTS	No data available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity (RTECS : 2004-11)

[1,2-Ethanediol]			
Oral	LD ₅₀ (rat)		4,700 mg/kg
Inhalation	LC ₅₀ (rat)		>200 mg/ m ³ /4H
Skin	LD ₅₀ (rabbit)		9,530 uL/kg
[Ethanol,2-(2-butoxyethoxy)-]			
Oral	LD ₅₀ (rat)		5,660 mg/kg
Skin	LD ₅₀ (rabbit)		2,700 mg/kg
[1,2,3-Propanetriol]			
Oral	LD ₅₀ (rat)		12,600 mg/kg
Inhalation	LC ₅₀ (rat)		>570 mg/ m ³ /1H
Skin	LD ₅₀ (rabbit)		> 10 mg/kg
[Carbon black]			
Oral	LD ₅₀ (rat)		> 15,400 mg/kg
Skin	LD ₅₀ (rabbit)		> 3 mg/kg

12. ECOLOGICAL INFORMATION

ECOTOXICITY	No data available
BIOACCUMULATIVE POTENTIAL	No data available
OTHER ADVERSE EFFECTS	No data available

13. DISPOSAL CONSIDERATIONS

Comply with all federal,state,EU,national and local regulations.
Do not dump this product into sewers , on the ground or into any body of water.

14. TRANSPORT INFORMATION

UN CLASS	None
UN Packing Group (PG)	None
UN NUMBER	None
Proper Shipping Name	None

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MATERIAL SAFETY DATA SHEET**15. REGULATORY INFORMATION**

Refer to any other federal , state , EU , national and local regulations.

OSHA STATUS : This product is hazardous under 29 CFR 1910.1200.

TSCA STATUS : All components on TSCA INVENTORY.

CERCLA REPORTABLE QUANTITY (40 CFR 117,302) :
Not applicable

SARA TITLE III: Not applicable

This product is classified as follows ,

[1,2-Ethanediol] :	[Xn]	R:22	S: (2)
[Ethanol,2-(2-butoxyethoxy)-] :	[Xi]	R:36	S: (2-)24-26

Symbol :	Xi	(Irritant)
	Xn	(Harmful)
Risk Phrase :	22	(Harmful if swallowed)
	36	(Irritating to eyes)
Safety Advice :	2	(Keep out of the reach of children.)
	24	(Avoid contact with skin.)
	26	(In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.)

Please refer to any other EU, national and local measures.

16. OTHER INFORMATION

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