

# Safety Data Sheet

(MSDS)



Issued Date : November 20,2013

Revised Date 3

	10	evised Date :			
CHEMICAL PRODUCT AND COMPANY IDENTIFICATION					
: Artline Glassboard Marker EPG-4	Color : (Fluoro.green)	25			
<ul> <li>Shachihata Inc.</li> <li>4-69,Amazuka-cho,Nishi-ku,Nag</li> <li>+ 81- 52- 521- 3600</li> </ul>	oya City,451-0021,Japan	Classbooking Marker on			
: +81-52-521-3899	a Inc [Janan])				

Company Name
Address
Telephone
Fax
Emergency Call
Recommended use

SECTION 1

**SECTION 2** 

**Product Name** 

HAZARDS IDENTIFICATION

: Marker ink

<b>-</b>	Not classified	Artline Casheard Marker
Environmental Hazards : C	Classification not possible	lassboard Marker
LABEL ELEMENTS	INI AND INI	
Symbols : none		
Signal word in none	der k	
Hazard statement : none		
Precautionary statement		
[Prevention]		
Wash hands thoroughly a	after handling.	(P264)
[Response]		
IF IN EYES : Rinse c	autiously with water for several minutes.	(P305+P351+P338)
Remove	e contact lenses, if present and easy to do. Continue rinsing.	
If eye irritation persists	: Get medical advice/attention.	(P337+P313)
IF ON SKIN (or hair)	: Remove/Take off immediately all contaminated clothing.	(P303+P361+P353)
	Rinse skin with water/shower.	
If skin irritation occurs	: Get medical advice/attention.	(P332+P313)
IF SWALLOWED	: Get medical advice/attention if you feel unwell.Rinse mouth.	(P301+P314+P330)
[Storage]		
Store in a well-ventilated	place. Keep container tightly closed.	(P403+P233)
[Disposal]		
Dispose of contents/conta	iner to waste in accordance with	(P501)
local/regional/ national	l/international regulation (to be specified).	

: + 81- 52- 521- 3600 (Shachihata Inc. [Japan])

Substance/Mixture : Mixture

Ingredients

Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
Ethanol	1~5	64-17-5	Flam.Liq. 2	H225
Glycol class solvent	5~15	Confidential	none	none
Synthetic resin	$10 \sim 20$	Confidential	none	none
Titanium oxide	$15 \sim 25$	13463-67-7	none	none
Dyestuff	<1	Confidential	none	none
Others	5~10	Confidential	none	none
total	100			

SECTION 4	FIRST-AID MEASURES
IF INHALED	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist.
IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing. If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

SECTION 5 FIRE-FIGHTING MEA	SURES
SUITABLE EXTINGUISHING MEDIA	: Dry chemical powder, foam or carbon dioxide

#### UNSUITABLE EXTINGUISHING MEDIA

: Water jet

#### SPECIFIC EXTINCTION METHOD

For initial stage extinction, carbon dioxide or dry chemical powder.

When a fire extends, fire is extinguished by a large amount of water spray.

Do not discharge extinguishing waters into the aquatic environment.

#### SPECIAL PROTECTIVE FOR FIRE- FIGHTERS

In the extinction work, an appropriate protective equipment (gloves, glasses, and mask) has to be worn. Because during a fire, hazardous gases may be generated, fire-fighters have to wear self-contained breathing apparatus and other protective equipment.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Evacuate personnel to safe area. Shut off all sources of ignition.

No Flares, smoking or flame in area. Put on protective equipment. Ensure adequate ventilation.

#### ENVIRONMENTAL PRECAUTIONS

Do not throw the leakage thing directly into environment.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

In case of a small spill, absorb with dry sand, soil, sawdust, cloth, etc.,

then place in a chemical waste containers.

In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

#### SECONDARY ACCIDENT PREVENTION MEASURE

All ignition sources should be quickly removed. (No smoking in vicinity, prohibit sparks or fire sources)

Handling	<ul> <li>Use with adequate ventilation.</li> <li>Avoid contact with skin, eyes and clothing.</li> <li>Obtain special instructions before use.</li> <li>Do not handle until all safety precautions have been read and understood.</li> <li>Do not eat, drink or smoke when using this product.</li> </ul>
Storage	: Keep containers tightly closed and store in a cool and dry place.

Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8	EXPOSURE C	ONTROLS ANI	D PERSONAL PR	OTECTION	
	L EXPOSURE LIMIT	1			
ACGIH					
Etha			STEL	1000ppm	
	ium dioxide		TWA	$10 \text{ mg/m}^3$	
OSHA 1				1000	
Ethar Titan	nol ium dioxide		TWA TWA	1000ppm 15 mg/m <sup>3</sup>	
	TIVE 2000/39/EC		IWA	Not listed	
	ociety for Occupationa	l Hoalth (2013)		i vot libica	
_		Dusts Class 2	OEL( Total dust	$4 \text{ mg/m}^3$	
PERSONAL PRO				······································	
	iratory Protection	Not required, b	ut wear mask to prev	ent organic gas,if necessary.	
: Hand	Protection	Not required, b	ut wear safety glove	es, if necessary.	
	Protection	• · ·	ut wear safety glass		
-	Protection	_		tection apron,boots,if necessary.	
		• ·		icessary.	
SECTION 9	PHISICAL AN	ID CHEMICAL			
Appearance		: Fluoro.gre	-		
Odour		: Almost No	-		
pH		: No data :	available		
Boiling point		: No data :	available		
Flash point		: Not applie	able		
Relative Density	(at 25°C)	$\therefore$ 1.1 - 1.3 g/cm <sup>3</sup>			
Solubility in Wat	er	: soluble			
SECTION 10	STABILITY A	ND REACTIVIT	"Y		
Stability		: Stable une	der normal handling.		
Conditions to Ave	bid	: High temp	perature, Direct sunli	ight, Fire	
Incompatible Ma	terials	: Strong oxi	dising agents		
Hazardous Decon	nposition Products	$: CO, CO_2$			
SECTION 11		CAL INFORMA	TION		
Acute toxicity			evant for classification	on	
	[Ethan				
		al-rat		60mg/kg	
		nalation-rat		000ppm/10h	
Carcinogenicity			lassified by the IARC	_	
However, EPA (Env	nogenicity of titanium d vironmental Protection A pected carcinogenic to h	ioxide, International . gency),EU (European	n Chemicals Agency), N	Cancer (IARC) has classified as a group 2B. TP (National Toxicology Program, USA) in the l not classify the carcinogenicity of GHS from	
SECTION 12	ECOLOGICAI	INFORMATIC	DN		
Hazardous to the	aquatic environment	(acute)	: Classification no	ot possible	
Hazardous to the	aquatic environment	(chronic)	Classification no	ot possible	
Hazardous to the	ozone layer		: Classification no	ot possible	
	-				

## SECTION 13 DISPOSAL CONSIDERATIONS

[ISO11014:2009][Shachihata Inc.] [EPG-4\_FL.green\_a] 4/4

Do not allow product to reach ground, any water course or sewage system.

SECTION 14 TRAN	SPORT INFORMATION	
UN number	(DOT, ADR, IMDG, IATA)	: None
UN proper shipping name	(DOT, ADR, IMDG, IATA)	: None
UN Classification		: None
Packing group	(DOT, ADR, IMDG, IATA)	: None
Marine pollutant (Y/N)		: N
EmS number		: None

## SECTION 15 REGULATORY INFORMATION

< EU Information > Regulation (EC) No 1272/2008 (	CID)				
_	Ethan	_1]			
Substance name					
Hazard Class & Category		able liquids, Category 2			
Symbols	: GHS02				
Signal word	: Danger				
Hazard statements	: H225	Highly flammable liquid	and vapour		
Directive 67/548/EEC or 1999/4	5/EC				
Hazard designation					
Substance name	: [Ethan	ol]			
Classification	: F; R11				
R-Phrase	: R11	Highly flammable.			
S-Phrase	: S2	Keep out of the reach of o	children.		
	$\mathbf{S7}$	Keep container tightly cl	osed.		
	S16	Keep away from sources			
Symbols and indications of d	anger speci	fic F : Highly flamma	able		
< USA Information >					
	t is not have	vardous under 29 CFR 1910	0 1200		
OSHA STATUS : This product is not hazardous under 29 CFR 1910.1200.					
TSCA Hazard Communication Program (40 CFR Part 721) (SNUR) : Not Applicable					
CERCLA REPORTABLE QUANTITY (40 CFR 117,302) : Not Applicable					
SARA TITLE III Section 313 (40 CFR 372) : Not Applicable					
California Proposition 65 (Chemicals known to cause cancer) : Not listed					

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

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).



(MSDS)



Issued Date : November 20,2013

Revised Date  $\,$  :

SECTION 1	CHEMICAL P.	RODUCT AND C	COMPANY IDENTIFICATION	
Product Name	: Artline Glas EPG-4	sboard Marker	Color : (Fluoro.orange)	a change
Company Name	: Shachihata	Inc.	artistic	anthonish Marken
Address	: 4-69,Amazu	ka-cho,Nishi-ku,Nag	oya City,451-0021,Japan	11.1.1.
Telephone	+ 81- 52- 52			
Fax Emergency Call	: + 81- 52- 52 : + 81- 52- 52		a Inc. [Japan] )	
Recommended use	: + 81° 52° 52 : Marker ink	1-3600 (Snachinata	a Inc. [Japan] )	
SECTION 2	HAZARDS IDI	ENTIFICATION		
GHS Classification				
Physical Hazards	: Not	t classified		rtling
Health Hazards	: No	t classified	Name -	
Environmental Ha	azards : Cla	ssification not possib		lasboard Marker
LABEL ELEMENTS				
Symbols	: none		E Com	LOURUUSS
Signal word	: none			
Hazard statement	i none			
Precautionary sta	tement			
Prevent	ion ]			
Wash ha	nds thoroughly aft	er handling.		(P264)
Respons	e			
IF IN EY	ES : Rinse cau	tiously with water fo	or several minutes.	(P305+P351+P338
	Remove of	contact lenses, if pres	ent and easy to do. Continue rinsing.	
If eye irr	itation persists	: Get medical advic	e/attention.	(P337+P313)
IF ON SI	XIN (or hair)	: Remove/Take off i Rinse skin with w	mmediately all contaminated clothing. ater/shower.	(P303+P361+P353
If skin ir	ritation occurs	: Get medical advic	e/attention.	(P332+P313)
	LOWED	: Get medical advic	e/attention if you feel unwell.Rinse mouth.	(P301+P314+P330
IF SWAL				
IF SWAI [Storage				
[Storage	1	lace. Keep container	tightly closed.	(P403+P233)
[Storage	] a well-ventilated p	lace. Keep container	tightly closed.	(P403+P233)
[Storage Store in a [Disposa Dispose of	] a well-ventilated p ] of contents/contain	lace. Keep container er to waste in accord nternational regulati	ance with	(P403+P233) (P501)

Substance/Mixture : Mixture

Ingredients

Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
Ethanol	$1 \sim 5$	64-17-5	Flam.Liq. 2	H225
Glycol class solvent	$5 \sim 15$	Confidential	none	none
Synthetic resin	$10 \sim 20$	Confidential	none	none
Titanium oxide	$15 \sim 25$	13463-67-7	none	none
Dyestuff	<1	Confidential	none	none
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total	100			

SECTION 4	FIRST-AID MEASURES
IF INHALED	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist.
IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing.If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

SECTION 5	FIRE-FIGHTING ME	EASURES
SUITABLE EXTING	UISHING MEDIA	: Dry chemical powder, foam or carbon dioxide

#### UNSUITABLE EXTINGUISHING MEDIA

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In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

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Storage	: Keep containers tightly closed and store in a cool and dry place.

[ISO11014:2009][Shachihata Inc.] [EPG-4\_FL.orange\_a] 3/4

Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8	-			L PROTECTION	
	L EXPOSURE LIMI		DILKSUNA		
ACGIH		L			
Etha	nol		STEL	1000ppm	
Titar	ium dioxide		TWA	$10 \text{ mg/m}^3$	
OSHA 1					
Etha Titor	nol nium dioxide		TWA TWA	1000ppm 15 mg/m <sup>3</sup>	
	TIVE 2000/39/EC		1 WA	Not listed	
	ociety for Occupation	al Haalth (2013)		Not listeu	
-	nium dioxide	Dusts Class 2	OEL( Tota	al dust) 4 mg/m <sup>3</sup>	
PERSONAL PRO					
	iratory Protection	Not required,	but wear mask t	o prevent organic gas, if necessary.	
: Hand	l Protection	Not required,	but wear safety	gloves, if necessary.	
: Eye	Protection	Not required,	but wear safety	glasses, if necessary.	
: Skin	Protection	Not required,	but wear person	al protection apron,boots,if necessary.	
SECTION 9	PHYSICAL A	<b>ND CHEMICA</b>	L PROPERTI	ES	
Appearance		: Fluoro.o	range liquid		
Odour		: Almost N	Nothing		
pH		: No data	available		
Boiling point		: No data	available		
Flash point		: Not appl	icable		
Relative Density	v (at 25°C)	: 1.1 - 1.3	g/cm <sup>3</sup>		
Solubility in Wat	er	: soluble	-		
SECTION 10	STABILITY A	ND REACTIVI	ITY		
Stability		: Stable u	nder normal han	dling.	
Conditions to Ave	oid	: High ten	nperature, Direc	t sunlight, Fire	
Incompatible Ma	terials	: Strong o	xidising agents		
Hazardous Decor	nposition Products	$: CO, CO_2$			
SECTION 11	TOXICOLOG	ICAL INFORM	IATION		
Acute toxicity		) values that are r		ification	
	[Etha				
	-	al-rat halation-rat	LD50 LC50	7,060mg/kg 20,000ppm/10h	
Carcinogenicity				e IARC as Group 2B.	
		aterials : Not liste	•		
However, EPA (Env	vironmental Protection Appected carcinogenic to h	Agency),EU (Europe	an Chemicals Age	rch on Cancer (IARC) has classified as a group 2B. ncy), NTP (National Toxicology Program, USA) in the re could not classify the carcinogenicity of GHS from	
SECTION 12	ECOLOGICA	L INFORMATI	!ON		
	aquatic environment	(acute)	: Classifica	tion not possible	
Hazardous to the	aquatic environment	(chronic)	Classification not possible		
Hazardous to the ozone layer		Classification not possible			

## SECTION 13 DISPOSAL CONSIDERATIONS

[ISO11014:2009][Shachihata Inc.] [EPG-4\_FL.orange\_a] 4/4

Do not allow product to reach ground, any water course or sewage system.

SECTION 14 TRAN	SPORT INFORMATION	
UN number	(DOT, ADR, IMDG, IATA)	: None
UN proper shipping name	(DOT, ADR, IMDG, IATA)	: None
UN Classification		: None
Packing group	(DOT, ADR, IMDG, IATA)	: None
Marine pollutant (Y/N)		: N
EmS number		: None

## SECTION 15 REGULATORY INFORMATION

< EU Information >			
Regulation (EC) No 1272/2008	(CLP)		
Substance name	: [Ethan	ol]	
Hazard Class & Category	: Flamm	able liquids, Category 2	
Symbols	: GHS02	2	
Signal word	: Danger		
Hazard statements	: H225	Highly flammable liquid an	nd vapour
Directive 67/548/EEC or 1999/4	5/EC		
Hazard designation			
Substance name	: [Ethan	ol]	
Classification	: F; R11		
R-Phrase	: R11	Highly flammable.	
S-Phrase	: S2	Keep out of the reach of ch	ildren.
	$\mathbf{S7}$	Keep container tightly clos	ed.
	S16	Keep away from sources of	ignition - No smoking.
Symbols and indications of c	langer speci	fic F: Highly flammab	le
< USA Information >			
OSHA STATUS 💠 This produ	ct is not ha	zardous under 29 CFR 1910.1	1200.
TSCA Hazard Communication	Program (40	) CFR Part 721) (SNUR)	: Not Applicable
CERCLA REPORTABLE QUA	NTITY (40 (	CFR 117,302)	: Not Applicable
SARA TITLE III Section 313 (	(40 CFR 372	)	: Not Applicable
,			

California Proposition 65 (Chemicals known to cause cancer)

Refer to any other federal , state ,  $\ensuremath{\text{EU}}$  , national and local regulations.

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).

: Not listed



(MSDS)



Issued Date : November 20,2013

Revised Date 3

SECTION 1	CHEMICAL PI	RODUCT AND C	COMPANY IDENTIFICATION	
Product Name	: Artline Glass EPG-4	sboard Marker	Color : (Fluoro.pink)	200
Company Name Address Telephone Fax Emergency Call Recommended use	<ul> <li>Shachihata</li> <li>4-69,Amazul</li> <li>+ 81- 52- 521</li> <li>+ 81- 52- 521</li> <li>+ 81- 52- 521</li> <li>+ 81- 52- 521</li> <li>Marker ink</li> </ul>	xa-cho,Nishi-ku,Nag - 3600 - 3899	oya City,451-0021,Japan a Inc. [Japan] )	Justiceville Marken
SECTION 2	HAZARDS IDE	<b>ENTIFICATION</b>		
GHS Classification Physical Hazards	s : Not	classified	a la	<b>Artline</b>
Health Hazards	: Not	classified	June	lasheard Marker
Environmental H	lazards : Clas	ssification not possib	ple	Case of the Corker
LABEL ELEMENTS	3			
Symbols	: none			
Signal word	: none			
Hazard statemen	t : none			
Precautionary st	atement			
Preven	tion			
	ands thoroughly afte	er handling.		(P264)
[Respon				
IF IN E		tiously with water fo		(P305+P351+P338)
If our im	Remove co ritation persists	Get medical advic	sent and easy to do. Continue rinsing.	(P337+P313)
	KIN (or hair)		immediately all contaminated clothing.	(P303+P361+P353)
If skin i	rritation occurs	: Get medical advic	e/attention.	(P332+P313)
	LLOWED	: Get medical advic	e/attention if you feel unwell.Rinse mouth.	(P301+P314+P330)
Storage				<u> </u>
Store in [Dispos		ace. Keep container	tightly closed.	(P403+P233)
_		er to waste in accord		(P501)
local/	regional/ national/in	nternational regulat	ion (to be specified).	

Substance/Mixture : Mixture

Ingredients

Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
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total	100			

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IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing.If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

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SUITABLE EXTINGUISHING MEDIA	Dry chemical powder, foam or carbon dioxide
UNSUITABLE EXTINGUISHING MEDIA	: Water jet

## SPECIFIC EXTINCTION METHOD

For initial stage extinction, carbon dioxide or dry chemical powder. When a fire extends, fire is extinguished by a large amount of water spray.

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then place in a chemical waste containers.

In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

#### SECONDARY ACCIDENT PREVENTION MEASURE

All ignition sources should be quickly removed. (No smoking in vicinity, prohibit sparks or fire sources)

Handling	<ul> <li>Use with adequate ventilation.</li> <li>Avoid contact with skin, eyes and clothing.</li> <li>Obtain special instructions before use.</li> <li>Do not handle until all safety precautions have been read and understood.</li> <li>Do not eat, drink or smoke when using this product.</li> </ul>
Storage	<ul><li>Do not eat, drink or smoke when using this product.</li><li>Keep containers tightly closed and store in a cool and dry place.</li></ul>

Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8	EXPOSURE C	ONTROLS AN	D PERSONAL PROD	TECTION	
OCCUPATIONAL 1					
ACGIH (20				1000	
Ethano			STEL	1000ppm	
	m dioxide		TWA	$10 \text{ mg/m}^3$	
OSHA PE Ethano			TWA	1000ppm	
	n dioxide		TWA	$15 \text{ mg/m}^3$	
	/E 2000/39/EC			Not listed	
Japan Soci	iety for Occupations	al Health (2013)			
		Dusts Class 2	OEL( Total dust)	$4 \text{ mg/m}^3$	
<b>PERSONAL PROT</b> : Respira	ECTION atory Protection	Not required, l	out wear mask to prevent	t organic gas,if necessary.	
: Hand I	-	_	out wear safety gloves, i		
Eye Pr		_	out wear safety glasses,		
-	rotection	_		tion apron,boots,if necessary.	
		• ·	· ·	apron,oooo,n neecosary.	
SECTION 9	PHYSICAL AI		<i>L</i> PROPERTIES		
Appearance		: Fluoro.pi	-		
Odour		: Almost N	-		
pH		: No data	available		
Boiling point		: No data	available		
Flash point		: Not appli	cable		
Relative Density	(at 25°C)	: 1.1 - 1.3	g/cm <sup>3</sup>		
Solubility in Water		: soluble			
SECTION 10	STABILITY A	ND REACTIVI	ТҮ		
Stability		: Stable ur	der normal handling.		
Conditions to Avoid					
Incompatible Mater	rials	: Strong ox	idising agents		
Hazardous Decomp	osition Products	$: CO, CO_2$			
SECTION 11	TOXICOLOGI	CAL INFORM	ATION		
Acute toxicity	: LD/LC50 [Etha		levant for classification		
	Or	al-rat nalation-rat	LD50 7,060m LC50 20,000	ng/kg ppm/10h	
Carcinogenicity			classified by the IARC as d by IARC, EPA, EU, NT	-	
However, EPA (Enviro	genicity of titanium d onmental Protection A cted carcinogenic to h	ioxide, International Agency),EU (Europea	Agency for Research on Ca in Chemicals Agency), NTP	ncer (IARC) has classified as a group 2B. (National Toxicology Program, USA) in the t classify the carcinogenicity of GHS from	
SECTION 12	ECOLOGICAI	L INFORMATI	ON		
Hazardous to the ac	quatic environment	(acute)	Classification not p	possible	
Hazardous to the ac	quatic environment	(chronic)	Classification not p	possible	

## SECTION 13 DISPOSAL CONSIDERATIONS

[ISO11014:2009][Shachihata Inc.] [EPG-4\_FL.pink\_a] 4/4

Do not allow product to reach ground, any water course or sewage system.

SECTION 14	TRANSPORT INFORMATION	
UN number	(DOT, ADR, IMDG, IATA)	: None
UN proper shipping r	(DOT, ADR, IMDG, IATA)	: None
UN Classification		: None
Packing group	(DOT, ADR, IMDG, IATA)	: None
Marine pollutant (Y/I	4)	: N
EmS number		: None

## SECTION 15 REGULATORY INFORMATION

< EU Information >					
Regulation (EC) No 1272/2008 (	CLP)				
Substance name	: [Ethano	ol]			
Hazard Class & Category	: Flamm	able liquids, Category 2			
Symbols	: GHS02				
Signal word	: Danger				
Hazard statements	: H225	Highly flammable liquid	and vapour		
Directive 67/548/EEC or 1999/4	$5/\mathrm{EC}$				
Hazard designation					
Substance name	: [Ethane	ol]			
Classification	: F; R11				
R-Phrase	: R11	Highly flammable.			
S-Phrase	: S2	Keep out of the reach of o	children.		
	$\mathbf{S7}$	Keep container tightly cl	osed.		
	S16	Keep away from sources	of ignition - No smoking.		
Symbols and indications of d	anger specif	fic F : Highly flamma	able		
< USA Information >					
OSHA STATUS : This produc	et is not haz	zardous under 29 CFR 191	0.1200.		
TSCA Hazard Communication Program (40 CFR Part 721) (SNUR) : Not Applicable					
CERCLA REPORTABLE QUANTITY (40 CFR 117,302) : Not Applicable					
SARA TITLE III Section 313 (40 CFR 372) : Not Applicable					
California Proposition 65 (Chemicals known to cause cancer) : Not listed					

California Proposition 65 (Chemicals known to cause cancer)

Refer to any other federal , state ,  $\ensuremath{\text{EU}}$  , national and local regulations.

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).



(MSDS)



Pariand Date

Issued Date : November 20,2013

Revised Date 3

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SECTION 1	CHEMICAL P	RODUCT AND CO	OMPANY IDENTIFICATION	
Product Name	: Artline Glas EPG-4	sboard Marker	Color : (Fluoro.Yellow)	
Company Name Address Telephone Fax Emergency Call Recommended use	<ul> <li>Shachihata</li> <li>4-69,Amazu</li> <li>+ 81- 52- 52</li> <li>+ 81- 52- 52</li> <li>+ 81- 52- 52</li> <li>+ 81- 52- 52</li> <li>Marker ink</li> </ul>	ka-cho,Nishi-ku,Nagoy 1- 3600 1- 3899	ya City,451-0021,Japan Inc. [Japan] )	instrumite Marken
SECTION 2	HAZARDS ID	ENTIFICATION		
GHS Classification Physical Hazards	s : No	t classified		rtline
Health Hazards	: No	t classified	Nation Nation	
Environmental H	Hazards : Cla	ssification not possible	e Gu	usboard Marker
LABEL ELEMENT	S			
Symbols	: none		GOL GOL	
Signal word	: none			
Hazard statemer	nt : none			
Precautionary st	tatement			
Preven	tion			
	ands thoroughly af	er handling.		(P264)
Respor	nse			
IF IN E		atiously with water for		(P305+P351+P338)
		contact lenses, if prese	nt and easy to do. Continue rinsing.	
•	ritation persists	: Get medical advice/		(P337+P313)
IF ON S	SKIN (or hair)	: Remove/Take off in Rinse skin with wa	nmediately all contaminated clothing. ter/shower.	(P303+P361+P353)
If skin i	rritation occurs	: Get medical advice/	attention.	(P332+P313)
	LLOWED	: Get medical advice/	attention if you feel unwell.Rinse mouth.	(P301+P314+P330)
Storag				
		lace. Keep container ti	ightly closed.	(P403+P233)
Dispos				( <b>—</b>
•		er to waste in accorda		(P501)
local	/regional/ national/i	nternational regulatio	n (to be specified).	

Substance/Mixture : Mixture

Ingredients :				
Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
Ethanol	$1 \sim 5$	64-17-5	Flam.Liq. 2	H225
Glycol class solvent	$5 \sim 15$	Confidential	none	none
Synthetic resin	$10 \sim 20$	Confidential	none	none
Titanium oxide	$15 \sim 25$	13463-67-7	none	none
Dyestuff	<1	Confidential	none	none
Others	5~10	Confidential	none	none
total	100			

SECTION 4	FIRST-AID MEASURES
IF INHALED	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist.
IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing.If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

SECTION 5 FIRE-FIGHTING	MEASURES
SUITABLE EXTINGUISHING MEDIA	: Dry chemical powder, foam or carbon dioxide
UNSUITABLE EXTINGUISHING MEDIA	: Water jet

## UNSUITABLE EXTINGUISHING MEDIA

#### SPECIFIC EXTINCTION METHOD

For initial stage extinction, carbon dioxide or dry chemical powder.

When a fire extends, fire is extinguished by a large amount of water spray.

Do not discharge extinguishing waters into the aquatic environment.

#### SPECIAL PROTECTIVE FOR FIRE- FIGHTERS

In the extinction work, an appropriate protective equipment (gloves, glasses, and mask) has to be worn. Because during a fire, hazardous gases may be generated, fire-fighters have to wear self-contained breathing apparatus and other protective equipment.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Evacuate personnel to safe area. Shut off all sources of ignition.

No Flares, smoking or flame in area. Put on protective equipment. Ensure adequate ventilation.

#### ENVIRONMENTAL PRECAUTIONS

Do not throw the leakage thing directly into environment.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

In case of a small spill, absorb with dry sand, soil, sawdust, cloth, etc.,

then place in a chemical waste containers.

In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

#### SECONDARY ACCIDENT PREVENTION MEASURE

All ignition sources should be quickly removed. (No smoking in vicinity, prohibit sparks or fire sources)

Handling	<ul> <li>Use with adequate ventilation.</li> <li>Avoid contact with skin, eyes and clothing.</li> <li>Obtain special instructions before use.</li> <li>Do not handle until all safety precautions have been read and understood.</li> <li>Do not eat, drink or smoke when using this product.</li> </ul>
Storage	<ul> <li>Keep containers tightly closed and store in a cool and dry place.</li> </ul>

Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8	EXPOSURE C	ONTROLS AN	D PERSONAL	L PROTECTION		
OCCUPATIONA	L EXPOSURE LIMIT	1				
ACGIH						
Ethar			STEL	1000ppm		
Titan	ium dioxide		TWA	$10 \text{ mg/m}^3$		
OSHA I				1000		
Ethar Titan	nol ium dioxide		TWA TWA	1000ppm 15 mg/m <sup>3</sup>		
	'IVE 2000/39/EC	Not listed				
	ociety for Occupation	Hoalth (2013)		Not listed		
_		Dusts Class 2	OEL( Total	dust) 4 $mg/m^3$		
PERSONAL PRO						
	ratory Protection	Not required, b	out wear mask to	prevent organic gas, if necessary.		
: Hand	Protection	Not required, b	out wear safety	gloves, if necessary.		
: Eve	Protection	Not required, b	out wear safety a	glasses, if necessary.		
-	Protection	_		l protection apron,boots,if necessary.		
SECTION 9	PHYSICALAN	ND CHEMICAL	PROPERTIE	ES		
Appearance		Fluoro.ye		19		
Odour		: Almost N	-			
рН		: No data	-			
Boiling point		: No data				
Flash point						
-	( + 0500)	: Not appli	_			
Relative Density		: 1.1 - 1.3	g/cm°			
Solubility in Wat		: soluble				
SECTION 10	STABILITY A	ND REACTIVI	ТҮ			
Stability		: Stable un	der normal hand	ling.		
Conditions to Ave	bid	: High tem	perature, Direct	sunlight, Fire		
Incompatible Mat	terials	: Strong ox	idising agents			
Hazardous Decon	nposition Products	$: CO, CO_2$				
SECTION 11	TOXICOLOGI	CAL INFORM	ATION			
Acute toxicity	: LD/LC50	values that are re	levant for classifi	ication		
	[Etha:			7.000 ··································		
	-	al-rat nalation-rat	LD50 LC50	7,060mg/kg 20,000ppm/10h		
Carcinogenicity				IARC as Group 2B.		
<b>D</b>		aterials : Not listed	-			
However, EPA (Env	rironmental Protection A pected carcinogenic to h	gency),EU (Europea	in Chemicals Agend	ch on Cancer (IARC) has classified as a group 2B. cy), NTP (National Toxicology Program, USA) in the could not classify the carcinogenicity of GHS from		
SECTION 12	ECOLOGICAI	INFORMATIO	ON			
Hazardous to the	aquatic environment	(acute)	: Classificati	on not possible		
Hozordova to the	aquatic environment	(chronic)	: Classificati	on not possible		
mazaruous to me						

## SECTION 13 DISPOSAL CONSIDERATIONS

[ISO11014:2009][Shachihata Inc.] [EPG-4\_FL.yellow\_a] 4/4

Do not allow product to reach ground, any water course or sewage system.

SECTION 14 T	RANSPORT INFORMATION		
UN number	(DOT, ADR, IMDG, IATA)	: None	
UN proper shipping na	ame (DOT, ADR, IMDG, IATA)	: None	
UN Classification		: None	
Packing group	(DOT, ADR, IMDG, IATA)	: None	
Marine pollutant (Y/N)	)	: N	
EmS number		: None	

## SECTION 15 REGULATORY INFORMATION

< EU Information >					
Regulation (EC) No 1272/2008 (	(CLP)				
Substance name	: [Ethan	ol]			
Hazard Class & Category	: Flamm	able liquids, Category 2			
Symbols	: GHS02				
Signal word	: Danger				
Hazard statements	: H225	Highly flammable liquid	and vapour		
Directive 67/548/EEC or 1999/4	5/EC				
Hazard designation					
Substance name	: [Ethan	ol]			
Classification	: F; R11				
R-Phrase	: R11	Highly flammable.			
S-Phrase	: S2	Keep out of the reach of a	children.		
	$\mathbf{S7}$	Keep container tightly cl	osed.		
	S16	Keep away from sources	of ignition - No smoking.		
Symbols and indications of d	anger speci	fic F : Highly flamma	able		
< USA Information >					
OSHA STATUS : This produc	et is not had	zardous under 29 CFR 191	0.1200.		
TSCA Hazard Communication Program (40 CFR Part 721) (SNUR) : Not Applicable					
CERCLA REPORTABLE QUANTITY (40 CFR 117,302) : Not Applicable					
SARA TITLE III Section 313 (40 CFR 372) : Not Applicable					
California Proposition 65 (Chemicals known to cause cancer) : Not listed					

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

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).



(MSDS)



Issued Date

: November 20,2013

Revised Date 3

(P501)

SECTION 1	CHEMICAL PRODUCT	AND COMPANY IDENTIFICATION	
Product Name	: Artline Glassboard Marl EPG-4	Ũ	
Company Name Address Telephone Fax Emergency Call Recommended use	: + 81- 52- 521- 3600 : + 81- 52- 521- 3899	i-ku,Nagoya City,451-0021,Japan hachihata Inc. [Japan] )	Darabaanit Marken
SECTION 2	HAZARDS IDENTIFICA	ATION	
GHS Classification Physical Hazards Health Hazards	<ul> <li>Not classified</li> <li>Not classified</li> </ul>		Artline Ausbourd Marker
Environmental H	zards : Classification n	not possible	associated JV (arker
LABEL ELEMENTS			
Symbols	: none	E O	LOUR UIUSS
Signal word	: none		
Hazard statemen	: none		
Precautionary st (Preven Wash ha			(P264)
Respon	el		
IF IN E	ES : Rinse cautiously with	n water for several minutes.	(P305+P351+P338)
		es, if present and easy to do. Continue rinsing.	
-	1	cal advice/attention.	(P337+P313)
IF ON S		Γake off immediately all contaminated clothing. in with water/shower.	(P303+P361+P353)
		cal advice/attention.	(P332+P313)
IF SWA [Storage		cal advice/attention if you feel unwell.Rinse mouth.	(P301+P314+P330)
Store in	well-ventilated place. Keep co	ontainer tightly closed.	(P403+P233)

[Disposal]

Dispose of contents/container to waste in accordance with local/regional/ national/international regulation (to be specified).

Substance/Mixture : Mixture

Ingredients

SECTION 4

Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
Ethanol	$1 \sim 5$	64-17-5	Flam.Liq. 2	H225
Glycol class solvent	$5 \sim 15$	Confidential	none	none
Synthetic resin	$1 \sim 5$	Confidential	none	none
Titanium oxide	$25{\sim}35$	13463-67-7	none	none
Pigment	$1 \sim 5$	Confidential	none	none
Others	5~10	Confidential	none	none
total	100			

SECTION 4	TIKSI-AID MEASURES
IF INHALED	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist.
IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing.If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

SECTION 5 FIRE-FIGHTING MEASU	JK	RES
 SUITABLE EXTINGUISHING MEDIA	:	Dry chemical powder, foam or carbon dioxide
UNSUITABLE EXTINGUISHING MEDIA	:	Water jet

#### SPECIFIC EXTINCTION METHOD

For initial stage extinction, carbon dioxide or dry chemical powder.

FIRST-AID MEASURES

When a fire extends, fire is extinguished by a large amount of water spray.

Do not discharge extinguishing waters into the aquatic environment.

#### SPECIAL PROTECTIVE FOR FIRE- FIGHTERS

In the extinction work, an appropriate protective equipment (gloves, glasses, and mask) has to be worn. Because during a fire, hazardous gases may be generated, fire-fighters have to wear self-contained breathing apparatus and other protective equipment.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Evacuate personnel to safe area. Shut off all sources of ignition.

No Flares, smoking or flame in area. Put on protective equipment. Ensure adequate ventilation.

#### ENVIRONMENTAL PRECAUTIONS

Do not throw the leakage thing directly into environment.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

In case of a small spill, absorb with dry sand, soil, sawdust, cloth, etc.,

then place in a chemical waste containers.

In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

#### SECONDARY ACCIDENT PREVENTION MEASURE

All ignition sources should be quickly removed. (No smoking in vicinity, prohibit sparks or fire sources)

Handling	<ul> <li>Use with adequate ventilation.</li> <li>Avoid contact with skin, eyes and clothing.</li> <li>Obtain special instructions before use.</li> <li>Do not handle until all safety precautions have been read and understood.</li> </ul>
Storage	<ul> <li>Do not native units an safety precautions have been read and understood.</li> <li>Do not eat, drink or smoke when using this product.</li> <li>Keep containers tightly closed and store in a cool and dry place.</li> </ul>

[ISO11014:2009][Shachihata Inc.] [EPG-4\_light blue\_a] 3/4

Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8	EXPOSURE C	ONTROLS AND	D PERSONAL PR	ROTECTION
	L EXPOSURE LIMI	[		
ACGIH				
Etha			STEL	1000ppm
Titar	nium dioxide		TWA	$10 \text{ mg/m}^3$
OSHA 1				1000
Etha	nol nium dioxide		TWA TWA	$1000 \mathrm{ppm}$ $15 \mathrm{~mg/m}^3$
	TIVE 2000/39/EC		1 WA	Not listed
		1 Haalth (9012)		Not listed
_	Society for Occupation nium dioxide	Dusts Class 2	OEL( Total dus	t) 4 mg/m <sup>3</sup>
		Dusts Class 2	OEL TOtal dus	4 mg/m
PERSONAL PRO	iratory Protection	Not required h	out wear mask to prev	vent organic gas,if necessary.
_	l Protection	_	out wear safety glove	
	Protection	_	out wear safety glass	
-		_		
	Protection	_		tection apron,boots,if necessary.
SECTION 9	PHYSICAL A	ND CHEMICAI	PROPERTIES	
Appearance		: light blue	liquid	
Odour		: Almost N	othing	
pH		: No data	available	
<b>Boiling point</b>		: No data	available	
Flash point		: Not appli	cable	
Relative Density	7 (at 25°C)	: 1.2 - 1.4	g/cm <sup>3</sup>	
Solubility in Wat	er	: soluble	-	
SECTION 10	STABILITY A	ND REACTIVI	ГҮ	
Stability		: Stable un	der normal handling	
Conditions to Av	oid	: High tem	perature, Direct sunl	ight, Fire
Incompatible Ma	terials	_	idising agents	
-	nposition Products	$: CO, CO_2$	0 0	
	-			
SECTION 11		CAL INFORM		
Acute toxicity	: LD/LC50 [Etha		levant for classificati	on
	-	al-rat	LD50 7,00	60mg/kg
	In	halation-rat		000ppm/10h
Carcinogenicity			classified by the IAR	_
However, EPA (En	inogenicity of titanium of vironmental Protection A spected carcinogenic to h	lioxide, International Agency),EU (Europea	n Chemicals Agency), N	NTP. a Cancer (IARC) has classified as a group 2B. JTP (National Toxicology Program, USA) in the d not classify the carcinogenicity of GHS from
SECTION 12	ECOLOGICA	LINFORMATI	ON	
	aquatic environment		: Classification n	ot possible
	aquatic environment		Classification n	-
	•	. ==•		-

## SECTION 13 DISPOSAL CONSIDERATIONS

[ISO11014:2009][Shachihata Inc.] [EPG-4\_light blue\_a] 4/4

Do not allow product to reach ground, any water course or sewage system.

SECTION 14	<b>TRANSPORT INFORMATION</b>		
UN number	(DOT, ADR, IMDG, IATA)	: None	
UN proper shipping n	ame (DOT, ADR, IMDG, IATA)	: None	
UN Classification		: None	
Packing group	(DOT, ADR, IMDG, IATA)	: None	
Marine pollutant (Y/N	D	: N	
EmS number		: None	

## SECTION 15 REGULATORY INFORMATION

< EU Information >			
Regulation (EC) No 1272/2008	(CLP)		
Substance name	: [Ethan	ol]	
Hazard Class & Category	: Flamm	able liquids, Category 2	
Symbols	: GHS02	2	
Signal word	: Danger		
Hazard statements	: H225	Highly flammable liquid	and vapour
Directive 67/548/EEC or 1999/4	5/EC		
Hazard designation			
Substance name	: [Ethan	ol]	
Classification	: F; R11		
R-Phrase	: R11	Highly flammable.	
S-Phrase	: S2	Keep out of the reach of	children.
	$\mathbf{S7}$	Keep container tightly cl	losed.
	S16	Keep away from sources	of ignition - No smoking.
Symbols and indications of c	langer speci	fic F : Highly flamm	able
< USA Information >			
OSHA STATUS : This produc	ct is not has	zardous under 29 CFR 191	0.1200.
TSCA Hazard Communication	Program (40	) CFR Part 721) (SNUR)	: Not Applicable
CERCLA REPORTABLE QUA	NTITY (40 (	CFR 117,302)	: Not Applicable
SARA TITLE III Section 313 (	40 CFR 372	)	: Not Applicable

California Proposition 65 (Chemicals known to cause cancer)

Refer to any other federal , state ,  $\ensuremath{EU}$  , national and local regulations.

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).

: Not listed



(MSDS)



Issued Date

: November 20,2013

Revised Date	:

SECTION 1	CHEMICAL PRODU	CT AND CO	MPANY IDENTIFICATION	
Product Name	: Artline Glassboard EPG-4	Marker	Color : (Purple)	46.0
Company Name Address Telephone Fax Emergency Call Recommended use	<ul> <li>Shachihata Inc.</li> <li>4-69,Amazuka-cho,J</li> <li>+ 81- 52- 521- 3600</li> <li>+ 81- 52- 521- 3899</li> <li>+ 81- 52- 521- 3600</li> <li>Marker ink</li> </ul>		a City,451-0021,Japan Inc. [Japan] )	Elenthonith Marken
SECTION 2	HAZARDS IDENTIH	FICATION		
GHS Classification Physical Hazards	: Not classif	ied		Artling
Health Hazards	: Not classif	ïed	United	
Environmental H	azards : Classificat	ion not possible	in the second second	Classboard Marker
LABEL ELEMENT	5		A Cruch /	
Symbols	none			GOLOUR UNUSS
Signal word	: none			
Hazard statemer	t : none			
Precautionary st	atement			
Preven	tion			
	ands thoroughly after hand	lling.		(P264)
Respor				
IF IN E	YES : Rinse cautiously	with water for s	several minutes.	(P305+P351+P338)
	Remove contact	lenses, if presen	t and easy to do. Continue rinsing.	
	····· <b>F</b> ·····	medical advice/a		(P337+P313)
IF ON S		ove/Take off im e skin with wate	nediately all contaminated clothing. er/shower.	(P303+P361+P353)
If skin i	rritation occurs : Get	medical advice/a	ttention.	(P332+P313)
		medical advice/a	ttention if you feel unwell.Rinse mo	uth. (P301+P314+P330)
Storag				
	a well-ventilated place. Ke	eep container tig	htly closed.	(P403+P233)
[Dispos	of contents/container to wa	asto in accordan	eo with	(P501)
-	of contents/container to wa regional/ national/internat			(1061)
10021	regional/ national/internat	ional regulation	t to be specified).	

Substance/Mixture Mixture

Ingredients				
Chemical Name /	Composition	CAS	Hazard Class	Hazard statement
Generic name	weight %	Registry No.	(category)	
Water	$40 \sim 50$	7732-18-5	none	none
Ethanol	1~5	64-17-5	Flam.Liq. 2	H225
Glycol class solvent	5~15	Confidential	none	none
Synthetic resin	1~5	Confidential	none	none
Titanium oxide	$25 \sim 35$	13463-67-7	none	none
Pigment	1~5	Confidential	none	none
Others	5~10	Confidential	none	none
total	100			

SECTION 4	FIRST-AID MEASURES
IF INHALED	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor if symptoms persist.
IF ON SKIN	Remove/Take off immediately all contaminated clothing.Wash with soap and water. If skin irritation/rash occurs or feel unwell, consult a doctor for medical advice.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing.If eye irritation persists, get medical advice/attention.
IF SWALLOWED	After rinse mouth immediately, give about 250 ml of water or milk and thin in the stomach, and do not vomit forcibly.Moreover, do not give anything from the mouth to the patient when not conscious.Receive the doctor's treatment (stomach pump) promptly.

SECTION 5 FIRE-FIGHTING	<i>G MEASURES</i>
SUITABLE EXTINGUISHING MEDIA	: Dry chemical powder, foam or carbon dioxide
UNSUITABLE EXTINGUISHING MEDLA	A : Water jet

#### UNSUITABLE EXTINGUISHING MEDIA

#### SPECIFIC EXTINCTION METHOD

For initial stage extinction, carbon dioxide or dry chemical powder.

When a fire extends, fire is extinguished by a large amount of water spray.

Do not discharge extinguishing waters into the aquatic environment.

#### SPECIAL PROTECTIVE FOR FIRE- FIGHTERS

In the extinction work, an appropriate protective equipment (gloves, glasses, and mask) has to be worn. Because during a fire, hazardous gases may be generated, fire-fighters have to wear self-contained breathing apparatus and other protective equipment.

#### **SECTION 6** ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Evacuate personnel to safe area. Shut off all sources of ignition.

No Flares, smoking or flame in area. Put on protective equipment. Ensure adequate ventilation.

#### ENVIRONMENTAL PRECAUTIONS

Do not throw the leakage thing directly into environment.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

In case of a small spill, absorb with dry sand, soil, sawdust, cloth, etc.,

then place in a chemical waste containers.

In case of large spills, dike and prevent overflow, cover spills with foam,

then place in a chemical container using non-sparking tools.

#### SECONDARY ACCIDENT PREVENTION MEASURE

All ignition sources should be quickly removed. (No smoking in vicinity, prohibit sparks or fire sources)

Handling	<ul> <li>Use with adequate ventilation.</li> <li>Avoid contact with skin, eyes and clothing.</li> <li>Obtain special instructions before use.</li> <li>Do not handle until all safety precautions have been read and understood.</li> <li>Do not eat, drink or smoke when using this product.</li> </ul>
Storage	<ul> <li>Keep containers tightly closed and store in a cool and dry place.</li> </ul>

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Keep away from heat and flame,ignition source and sunlight. Keep out of the reach of children.

SECTION 8 EXPOSURE C	ONTROLS AN	D PERSON	AL PROTE	ECTION		
OCCUPATIONAL EXPOSURE LIMIT						
ACGIH (2013)		CONTRA		1000		
Ethanol Titanium dioxide		STEL TWA		$1000$ ppm $10 \dots 10^3$		
		IWA		$10 \text{ mg/m}^3$		
OSHA PEL Ethanol		TWA		1000ppm		
Titanium dioxide		TWA		$15 \text{ mg/m}^3$		
DIRECTIVE 2000/39/EC				Not listed		
Japan Society for Occupationa	l Health (2013)					
Titanium dioxide	Dusts Class 2	OEL( To	otal dust)	$4 \text{ mg/m}^3$		
PERSONAL PROTECTION						
: Respiratory Protection	Not required, h	ired, but wear mask to prevent organic gas,if necessary.				
: Hand Protection	Not required, h	red, but wear safety gloves, if necessary.				
: Eye Protection	Not required, h	ired, but wear safety glasses, if necessary.				
: Skin Protection	Not required, b	d, but wear personal protection apron,boots,if necessary.				
SECTION 9 PHYSICAL AN	D CHEMICAL	L PROPER	TIES			
Appearance	: purple lic	luid				
Odour	: Almost N	othing				
pH	: No data	: No data available				
Boiling point	: No data available					
Flash point	: Not applicable					
Relative Density (at 25°C)		$\therefore 1.2 - 1.4 \text{ g/cm}^3$				
Solubility in Water	: soluble	8				
SECTION 10 STABILITY AND REACTIVITY						
Stability	: Stable un	der normal h	andling.			
Conditions to Avoid	: High tem	ligh temperature, Direct sunlight, Fire				
Incompatible Materials	: Strong ox	g oxidising agents				
Hazardous Decomposition Products	$: CO, CO_2$					
SECTION 11 TOXICOLOGI	CAL INFORM	ATION				
	values that are re		ssification			
[Ethan		iovant for the	someation			
	al-rat	LD50	7,060mg/	-		
	alation-rat	LC50	20,000pp			
	<ul> <li>Titanium dioxide has been classified by the IARC as Group 2B.</li> <li>Other materials : Not listed by IARC, EPA, EU, NTP.</li> </ul>					
Regarding the carcinogenicity of titanium di However, EPA (Environmental Protection A classification of suspected carcinogenic to hu that there is no sufficient data.	ioxide, International gency),EU (Europea	Agency for Res an Chemicals A	earch on Cance gency), NTP (N	ational Toxicology Program, USA) in the		
SECTION 12 ECOLOGICAL	INFORMATI	ON				
Hazardous to the aquatic environment	(acute)	: Classifi	cation not pos	sible		
Hazardous to the aquatic environment	(chronic)	Classification not possible				
Hazardous to the ozone layer : Classification not possible						

## SECTION 13 DISPOSAL CONSIDERATIONS

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Do not allow product to reach ground, any water course or sewage system.

SECTION 14	TRANSPORT INFORMATION		
UN number	(DOT, ADR, IMDG, IATA)	: None	
UN proper shipping	name (DOT, ADR, IMDG, IATA)	: None	
UN Classification		: None	
Packing group	(DOT, ADR, IMDG, IATA)	: None	
Marine pollutant (Y	/N)	: N	
EmS number		: None	

## SECTION 15 REGULATORY INFORMATION

< EU Information >									
Regulation (EC) No 1272/2008 (CLP)									
Substance name	: [Ethanol]								
Hazard Class & Category	: Flamm	Flammable liquids, Category 2							
Symbols	: GHS02	HS02							
Signal word	: Danger	-							
Hazard statements	: H225	Highly flammable liquid	and vapour						
Directive 67/548/EEC or 1999/4	5/EC								
Hazard designation									
Substance name	: [Ethan	ol]							
Classification	: F; R11								
R-Phrase	: R11	Highly flammable.							
S-Phrase	: S2	Keep out of the reach of children.							
	$\mathbf{S7}$	Keep container tightly cl	losed.						
	S16	Keep away from sources	of ignition - No smoking.						
Symbols and indications of danger specific F: Highly flammable									
< USA Information >									
OSHA STATUS : This product is not hazardous under 29 CFR 1910.1200.									
TSCA Hazard Communication Program (40 CFR Part 721) (SNUR) : Not Applicable									
CERCLA REPORTABLE QUA	: Not Applicable								
SARA TITLE III Section 313 (40 CFR 372)			: Not Applicable						
,									

California Proposition 65 (Chemicals known to cause cancer)

Refer to any other federal , state ,  $\ensuremath{\text{EU}}$  , national and local regulations.

## SECTION 16 OTHER INFORMATION



EU RoHS Directive(2002/95/EC) and ELV Directive(2000/53/EC) This product does not contain lead, mercury, cadmium, hexavalent chromium, polybromiated biphenyls (PBB) or polybrominated diphenylethers (PBDE).

: Not listed