

# ACTIVON

For the last 10 years, ACTIVON has been growing slowly but sincerely. Nature's vitality. Passion for beauty. Communication between people. Trust based on tradition and technologies. All the values we keep for further growth. On the basis of Nature, Passion, Human and Trust. We are now going to deliver happiness to more people. We make happiness. We are ACTIVON

## Green Energy Division(GE)

Green Energy Division specializes in material development using Micro-encapsulation Technology which is applicable to a broad range of industries including architecture, textile and printing.

With over 10 years of experience, we have been developing microcapsules that provide various functionalities including color changing and heat storage.

We aim to provide our customers with the best products that will make people safer and happier

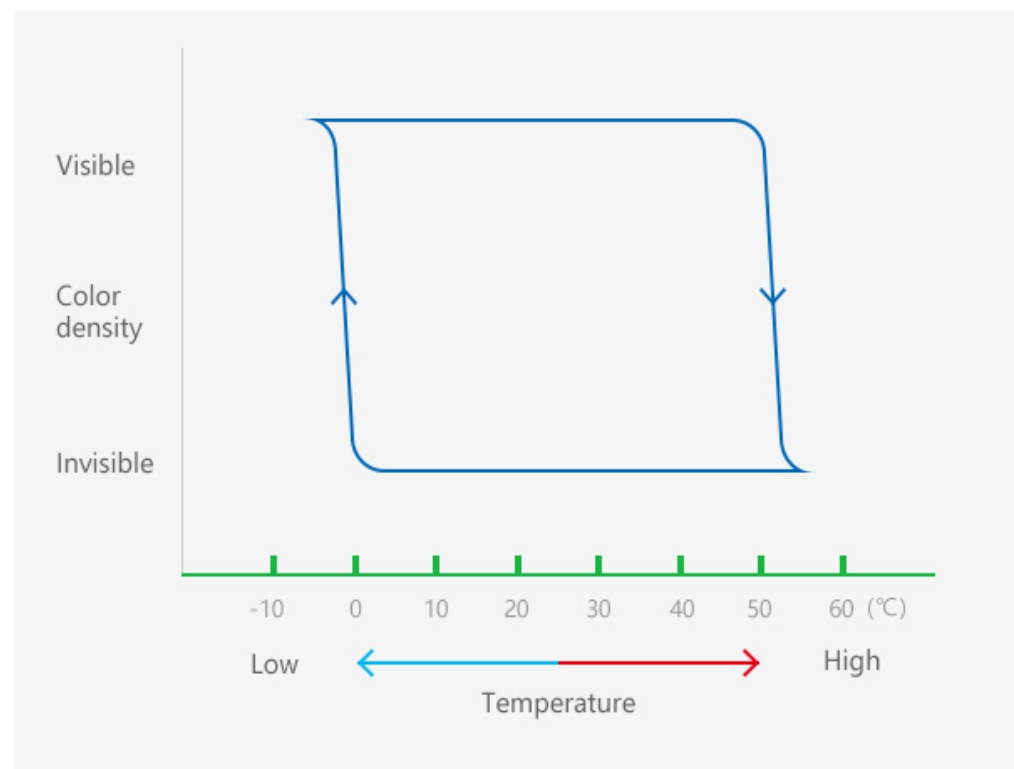


# MemoriON Color Pigment (For Erasable Pen)

- **MemoriON** : The large temperature difference reversibly changes from color to colorless. **Thermo-sensitive capsules** change irreversibly in the temperature range of -10 to 60°C. MemoriON Color Pigment is used to make erasable Pens that can be erased by Heating(Friction heat).

## ■ FEATURES

- Strong color strength
- A Variety of colors
- Stable dispersion
- Good clearance
- Powder, Slurry, Ink



type	Slurry	powder
Color Base for Gen-PEN	O	X
Color Base for Marker-Pen	O	X
Color Base for Color Pencil	X	O

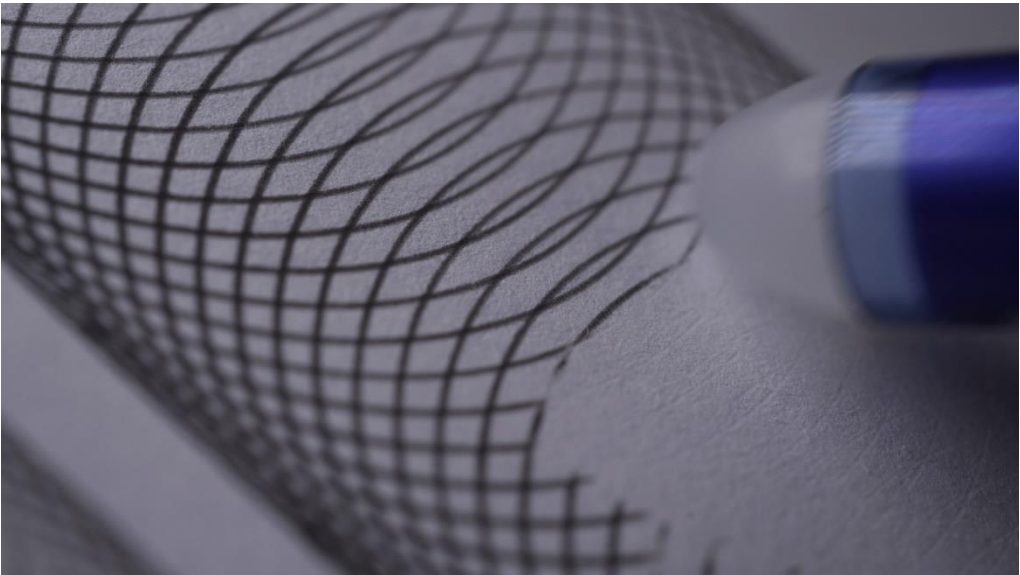


# MemoriON GEL PEN INK

## (For Erasable Pen)

### FEATURES

- Strong color strength
- Water-base ink
- Stable dispersion
- Good clearance
- Non tearing during writing
- Smooth writing



### Certificates

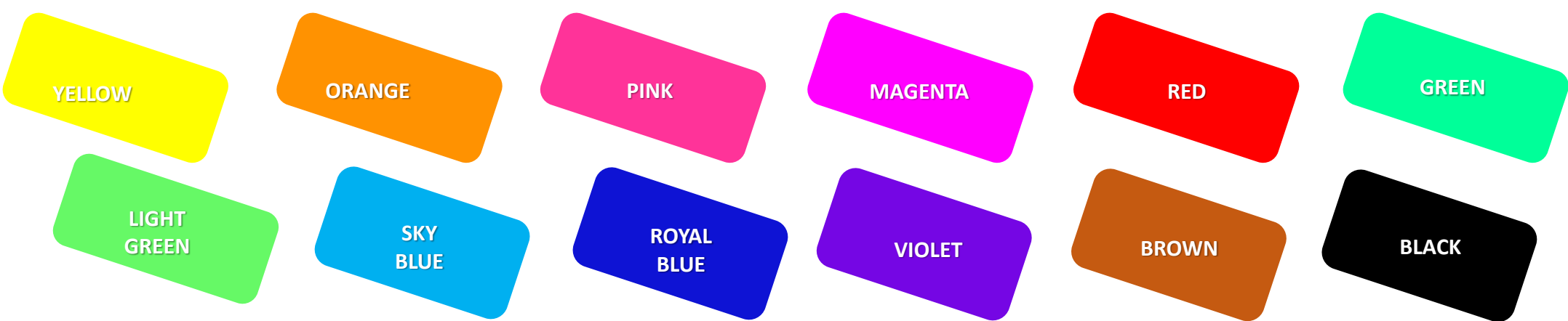
- EN71 part9

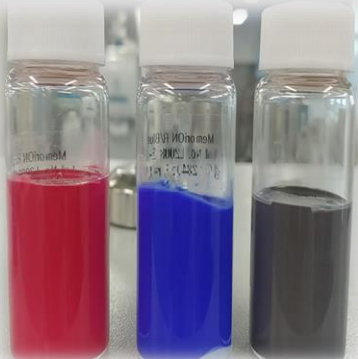


### Packing

- NET 20kg in plastic container

### Color Shade



	Writing	Erased	Line-split (spreading)	Viscosity (cp)	pH	Laydown (mg)	Stability (50°C*8weekS)
RED	◎	◎	◎	2,000 ~ 2,500	8.0 ~ 10.0	200~230	
BLUE	◎	◎	◎				
BLACK	◎	◎	◎				

• △: normal, ○ : good, ◎ : very good  
• Used 0.5mm with spin tip , Stability : Observe layer separation phenomenon at 50°C  
• Viscosity(cp) : Brookfield LV spindle S63 rpm 60



# MemoriON FLUORESCENT MARKER INK (For Erasable Pen)

## ■ FEATURES

- Strong color strength
- Bright colorant
- Water-base ink
- Stable dispersion
- Good clearance
- Smooth writing (Bold, Chisel)
- Viscosity : < 20cp
- pH : 7.0 ~ 10.0



## ■ Certificates

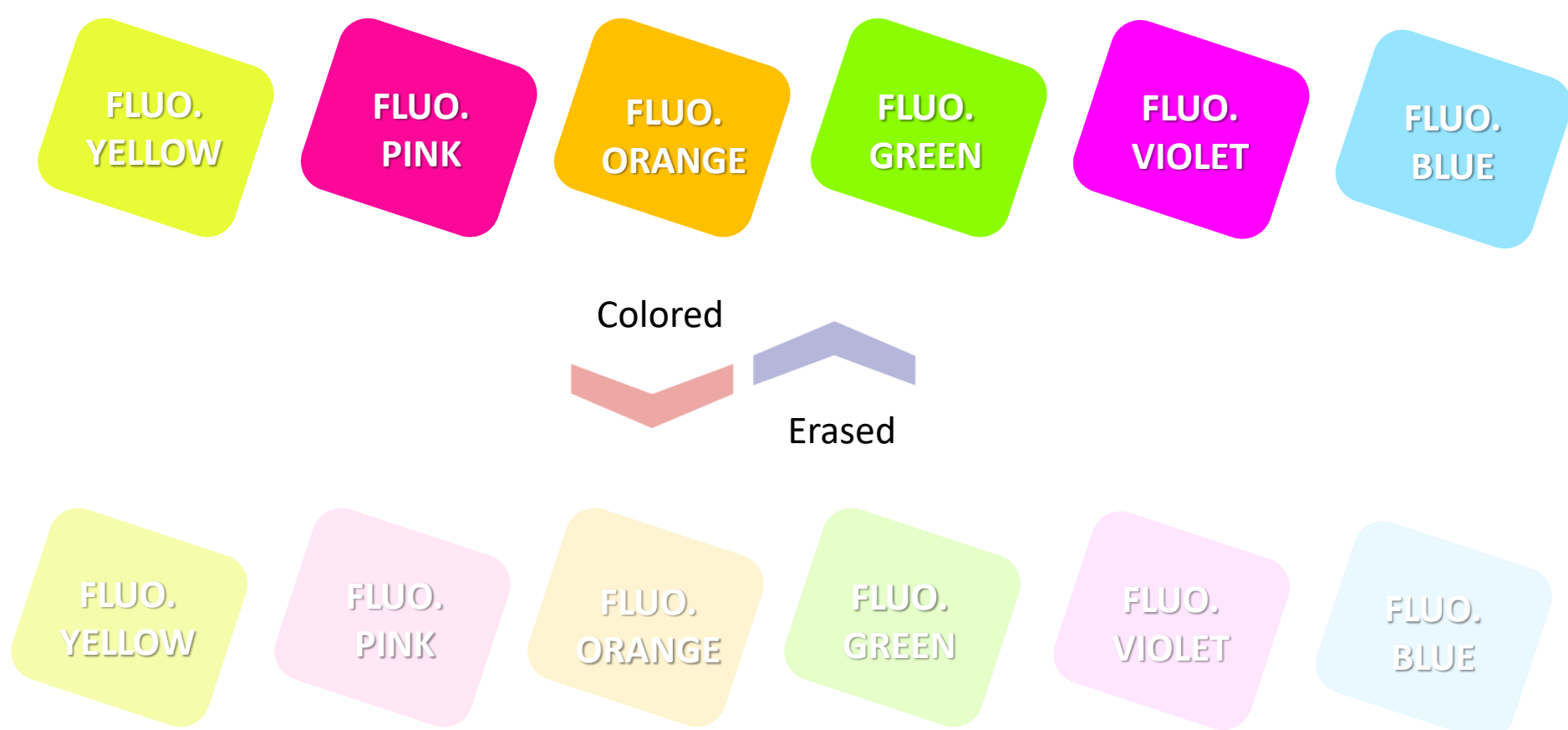
- EN71 part9



## ■ Packing

- NET 20kg in plastic container

## ■ Color Shade



# MemoriON MARKER INK

## (For Erasable Pen)

### ■ FEATURES

- Strong color strength
- Water-base ink
- Stable dispersion
- Good clearance
- Smooth writing (Bold)
- Viscosity : < 20cps
- pH : 7.0 ~ 10.0



### ■ Certificates

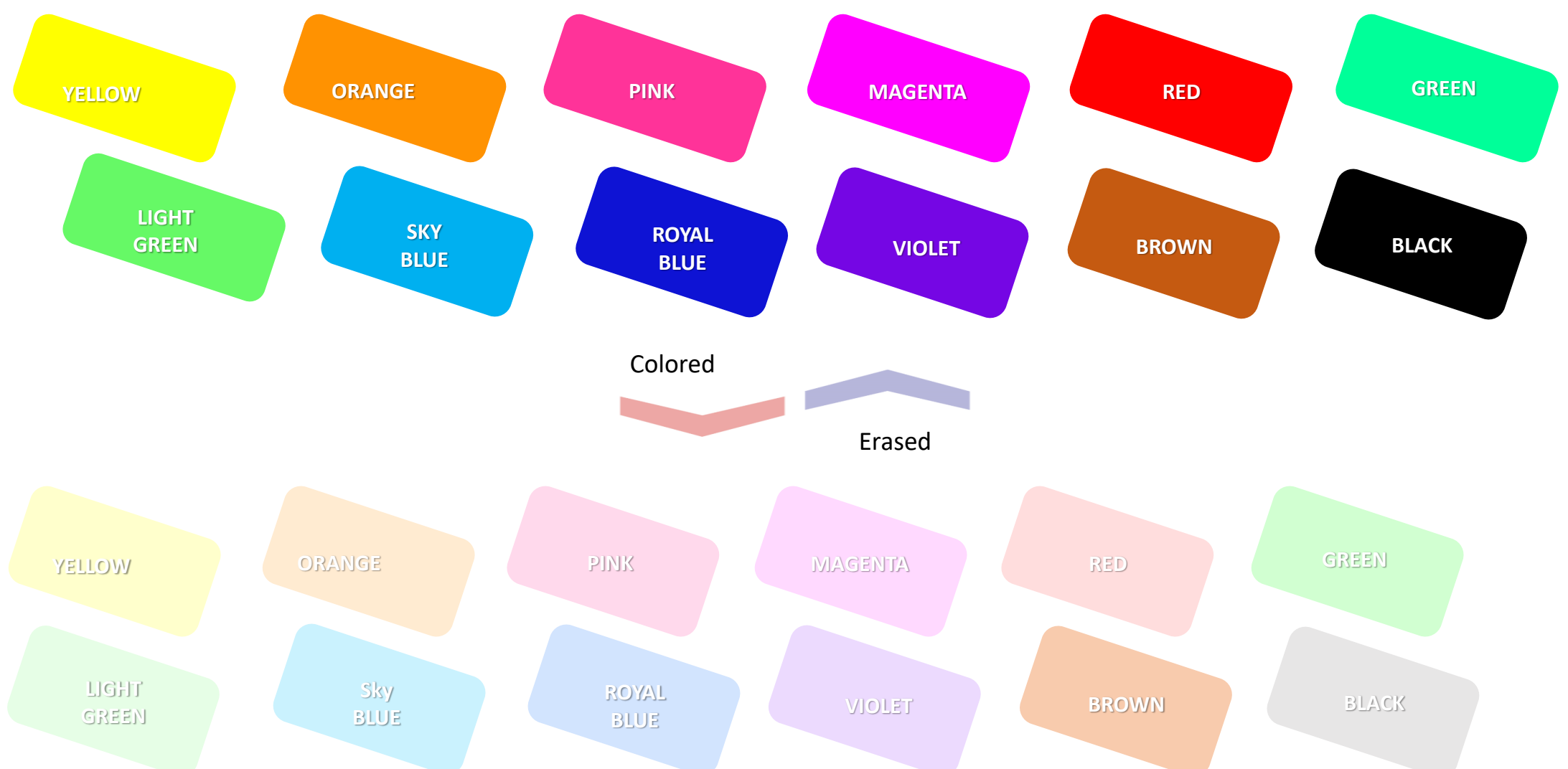
- EN71 part9



### ■ Packing

- NET 20kg in plastic container

### ■ Color Shade





# MemoriON GEL INK (EN71 PART9)

SGS

Test Report No. F690101/LF-CTSAYHA21-03887 Issued Date: 2021. 03. 29 Page 1 of 5

ACTIVON CO., LTD.  
46-5 Dureungyuri-ro, Ochang-eup, Cheongwon-gu  
Cheongju-si, Chungcheongbuk-do  
Korea

The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No. : AYHA21-03887  
Sample Description : Black Gel Ink  
Style no./Item no. : -  
Order No. : -  
Manufacturer : ACTIVON CO., LTD.  
Country of Origin : -  
Country of Destination : -  
Received Date : 2021. 03. 19  
Test Period : 2021. 03. 19 to 2021. 03. 29  
Test Method : For further details, please refer to following page (s)  
Test Results : For further details, please refer to following page (s)  
Report Comments : The results shown in this test report refer only to the sample(s) tested unless otherwise stated.  
This test report is not related to Korea Laboratory Accreditation Scheme.

Result Summary :

Test Requested	Conclusion
As specified by client, selected parts of the submitted sample(s) with reference to Safety of Toys, EN 71-9:2005+A1:2007 – Organic Chemical Compounds – Requirements.	--
1) To determine Colorants in the submitted samples.	PASS
2) To determine Primary Aromatic Amines in the submitted samples.	PASS
3) To determine Preservatives (other than Wood Preservatives) of the submitted samples.	PASS
4) pH value	PASS

SGS Korea Co., Ltd.

*Tommy*

Tommy Oh / Chemical Lab Mgr

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Test Report No. F690101/LF-CTSAYHA21-03887 Issued Date : 2021. 03. 29 Page 3 of 5

## 2) Primary Aromatic Amines

Method : Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Benzidine	92-87-5	2	N.D.	5
2-Naphthylamine	91-59-8	2	N.D.	5
4-Chloroaniline	106-47-8	2	N.D.	5
3,3'-Dichlorobenzidine	91-94-1	2	N.D.	5
3,3'-Dimethoxybenzidine	119-90-4	2	N.D.	5
3,3'-Dimethylbenzidine	119-93-7	2	N.D.	5
o-Toluidine	95-53-4	2	N.D.	5
2-Methoxyaniline	90-04-0	2	N.D.	5
Aniline	62-53-3	2	N.D.	5
Conclusion	-	-	PASS	-

## Sample Description :

1. Black gel ink

Note: 1. N.D. = Not detected. (<MDL)  
2. MDL = Method Detection Limit

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Test Report No. F690101/LF-CTSAYHA21-03887 Issued Date : 2021. 03. 29 Page 2 of 5

## Test Results :

### 1) Colorants

Method : Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005.

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Disperse Blue 1	2475-45-8	2	N.D.	10
Disperse Blue 3	2475-46-9	2	N.D.	10
Disperse Blue 106	12223-01-7	2	N.D.	10
Disperse Blue 124	61951-51-7	2	N.D.	10
Disperse Yellow 3	2832-40-8	2	N.D.	10
Disperse Orange 3	730-40-5	2	N.D.	10
Disperse Orange 37	12223-33-5	2	N.D.	10
Disperse Red 1	2872-52-8	2	N.D.	10
Solvent Yellow 1	60-09-3	2	N.D.	10
Solvent Yellow 2	60-11-7	2	N.D.	10
Solvent Yellow 3	97-56-3	2	N.D.	10
Basic Red 9	569-61-9	2	N.D.	10
Basic Violet 1	8004-87-3	2	N.D.	10
Basic Violet 3	548-62-9	2	N.D.	10
Acid Red 26	3761-53-3	2	N.D.	10
Acid Violet 49	1694-09-3	2	N.D.	10
Conclusion	-	-	PASS	-

## Sample Description :

1. Black gel ink

Note: 1. N.D. = Not detected. (<MDL)  
2. MDL = Method Detection Limit

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Test Report No. F690101/LF-CTSAYHA21-03887 Issued Date : 2021. 03. 29 Page 4 of 5

## 3) Preservatives (other than Wood Preservatives)

Method: Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Phenol	108-95-2	5	N.D.	10
1,2-Benzisothiazolin-3-one	2634-33-5	5	N.D.	5
2-Methyl-4-isothiazolin-3-one	2682-20-4	5	N.D.	10
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	5	N.D.	10
5-Chloro-2-methyl-4-isothiazolin-3-one + 2-methyl-4-isothiazolin-3-one	-	10	N.D.	15
Formaldehyde	50-00-0	200	N.D.	500
Conclusion	-	-	PASS	-

## Sample description :

1. Black gel ink

Note: (1) N.D. = Not detected. (<MDL)  
(2) MDL = Method Detection Limit

## 4) pH value

Test Method: ISO 787-9

Test Items	Result(s)	Limit
	1	
pH Value	9.4	4.0 ~ 10.0
Conclusion	PASS	-

## Sample description :

1. Black gel ink

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# MemoriON MARKER INK (EN71 PART9)



Test Report No. F690101/LF-CTSAYHA21-04510 Issued Date: 2021. 04. 12 Page 1 of 5

ACTIVON CO., LTD.  
48-5 Dureungyuri-ro, Ochang-eup, Cheongwon-gu  
Cheongju-si, Chungcheongbuk-do  
Korea

The following sample(s) was/were submitted and identified by/on behalf of the client as:-

SGS File No.	: AYHA21-04510
Sample Description	: F.Yellow Marker Ink
Style no./Item no.	: -
Order No.	: -
Manufacturer	: ACTIVON CO., LTD.
Country of Origin	: -
Country of Destination	: -
Received Date	: 2021. 04. 05
Test Period	: 2021. 04. 05 to 2021. 04. 12
Test Method	: For further details, please refer to following page (s)
Test Results	: For further details, please refer to following page (s)
Report Comments	: The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report is not related to Korea Laboratory Accreditation Scheme.

#### Result Summary

Test Requested	Conclusion
As specified by client, selected parts of the submitted sample(s) with reference to Safety of Toys, EN 71-9:2005+A1:2007 – Organic Chemical Compounds – Requirements.	–
1) To determine Colorants in the submitted samples.	PASS
2) To determine Primary Aromatic Amines in the submitted samples.	PASS
3) To determine Preservatives (other than Wood Preservatives) of the submitted samples.	PASS
4) pH value	PASS

SGS Korea Co., Ltd.

Tommy Oh / Chemical Lab Mgr

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Test Report No. F690101/LF-CTSAYHA21-04510 Issued Date : 2021. 04. 12 Page 3 of 5

#### 2) Primary Aromatic Amines

Method : Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Benzidine	92-87-5	2	N.D.	5
2-Naphthylamine	91-59-8	2	N.D.	5
4-Chloroaniline	106-47-8	2	N.D.	5
3,3'-Dichlorobenzidine	91-94-1	2	N.D.	5
3,3'-Dimethoxybenzidine	119-90-4	2	N.D.	5
3,3'-Dimethylbenzidine	119-93-7	2	N.D.	5
o-Toluidine	95-53-4	2	N.D.	5
2-Methoxyaniline	90-04-0	2	N.D.	5
Aniline	62-53-3	2	N.D.	5
Conclusion	-	-	PASS	-

#### Sample Description :

1. Yellow ink

Note: 1. N.D. = Not detected. (<MDL)  
2. MDL = Method Detection Limit

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Test Report No. F690101/LF-CTSAYHA21-04510 Issued Date : 2021. 04. 12 Page 2 of 5

#### Test Results :

##### 1) Colorants

Method : Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005.

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Disperse Blue 1	2475-45-8	2	N.D.	10
Disperse Blue 3	2475-46-9	2	N.D.	10
Disperse Blue 106	12223-01-7	2	N.D.	10
Disperse Blue 124	61951-51-7	2	N.D.	10
Disperse Yellow 3	2832-40-8	2	N.D.	10
Disperse Orange 3	730-40-5	2	N.D.	10
Disperse Orange 37	12223-33-5	2	N.D.	10
Disperse Red 1	2872-52-8	2	N.D.	10
Solvent Yellow 1	60-09-3	2	N.D.	10
Solvent Yellow 2	60-11-7	2	N.D.	10
Solvent Yellow 3	97-56-3	2	N.D.	10
Basic Red 9	569-61-9	2	N.D.	10
Basic Violet 1	8004-87-3	2	N.D.	10
Basic Violet 3	548-62-9	2	N.D.	10
Acid Red 26	3761-53-3	2	N.D.	10
Acid Violet 49	1694-09-3	2	N.D.	10
Conclusion	-	-	PASS	-

#### Sample Description :

1. Yellow ink

Note: 1. N.D. = Not detected. (<MDL)  
2. MDL = Method Detection Limit

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Test Report No. F690101/LF-CTSAYHA21-04510 Issued Date : 2021. 04. 12 Page 4 of 5

#### 3) Preservatives (other than Wood Preservatives)

Method: Sample preparation with reference to EN71-10:2005 followed by analysis with reference to EN71-11:2005

Test Item(s)	CAS Number	MDL (mg/kg)	Result(s) (Unit: mg/kg)	Limit (mg/kg)
			1	
Phenol	108-95-2	5	N.D.	10
1,2-Benzylisothiazolin-3-one	2634-33-5	5	N.D.	5
2-Methyl-4-isothiazolin-3-one	2682-20-4	5	N.D.	10
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	5	N.D.	10
5-Chloro-2-methyl-4-isothiazolin-3-one + 2-methyl-4-isothiazolin-3-one	-	10	N.D.	15
Formaldehyde	50-00-0	200	N.D.	500
Conclusion	-	-	PASS	-

#### Sample description :

1. Yellow ink

Note: (1) N.D. = Not detected. (<MDL)  
(2) MDL = Method Detection Limit

#### 4) pH value

Test Method: ISO 787-9

Test Items	Result(s)	Limit
	1	
pH Value	6.0	4.0 ~ 10.0
Conclusion	PASS	-

#### Sample description :

1. Yellow ink

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