

SAFETY DATA SHEET

Magic OPAQUE COLOR

Date Revised: 21/Oct/2011

1. Identification of the substance / preparation and of the company

Product : Magic Opaque Color No.550 / No.551
 Color : Black, Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White
 Company : Teranishi Chemical Industry Co., Ltd.
 13-11, Ikue 2-chome, Asahi-ku, Osaka 535-0004, Japan
 Tel : +81 6 6928 3101
 Fax : +81 6 6928 3111

2. Hazards identification

This product is considered safe under normal use conditions.
 Although the following classifications are adopted to the ink, its volume in the pen is a little and it is not considered as hazardous.

GHS Classification (Japan)

Hazards Class	Hazard Class and Category
Flammable liquid	Flam. Liq. 3 (All colors)
Acute toxicity (inhalation)	Acute Tox. 3 (Black)
Skin corrosion/irritation	Skin Irrit. 2 (All colors)
Serious eye damage/eye irritation	Eye Irrit. 2A (All colors)
Carcinogenicity	Carc. 2 (Black)
Reproductive toxicity	Repr. 2 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)
Specific target organ toxicity - single exposure	
STOT SE 3(respiratory tract irritation) (Black)	
STOT SE 2(lung) (Black)	
STOT SE 1(central nervous systems) (Black)	
STOT SE 3(narcotic effects) (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)	
Specific target organ toxicity - repeated exposure	
STOT RE 1(nervous) (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)	
Hazardous to the aquatic environment	
Aquatic Acute 2 (All colors)	
Aquatic chronic 4 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)	

Hazard Statement : Flammable liquid and vapour

Toxic if inhaled (black)
 Causes skin irritation
 Causes serious eye irritation
 Suspected of causing cancer (Black)
 Suspected of damaging fertility or unborn child
 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)
 May cause respiratory irritation (Black)
 May cause damage to organ(lung) (Black)
 Cause damage to organ(central nervous systems)
 May cause drowsiness and dizziness
 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)
 Cause damage to organs through prolonged or repeated exposure(nervous)
 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)
 Toxic to aquatic life
 May cause long lasting harmful effects to aquatic life
 (Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink, White)

3. Composition / Information on ingredients

CHEMICAL PRODUCT : Mixture (Oil based marking pen ink)

Ingredients	CAS No.	% BY WEIGHT				
		Black	Red	Blue	Green	Yellow
m-Xylene	108-38-3	-	57	51	48	48
Butyl acetate	123-86-4	75	-	-	-	-
Methyl isobutyl ketone	108-10-1	<0.01	-	<1	-	-
Solvent naphtha (petroleum), light aromatic	64742-95-6	-	-	<0.1	0.1	-
Resin	Confidential	18	22	28	25	21
Pigment (Titanium dioxide)	13463-67-7	-	15	16	21	26
Pigment (Aluminium hydroxide)	21645-51-2	-	<1	<1	<1	1
Pigment (Silicon dioxide)	7631-86-9	-	<1	<1	<1	1
Carbon black	1333-86-4	5	-	-	-	-
Pigment	Confidential	-	4	-	<1	1
Pigment (Copper compound)	Confidential	-	-	3	2	-
Body pigment (Calcium carbonate)	471-34-1	-	-	-	-	-
Oil dye	Confidential	-	<1	-	<1	1
Oil dye (Copper compound)	Confidential	-	-	-	1	-
Addition-agent etc.	Confidential	2	1	1	1	<1

Ingredients	CAS No.	% BY WEIGHT				
		Brown	Violet	Sky Blue	Pink	White
m-Xylene	108-38-3	52	46	42	37	37
Butyl acetate	123-86-4	-	-	-	-	-
Methyl isobutyl ketone	108-10-1	-	-	<1	-	-
Solvent naphtha (petroleum), light aromatic	64742-95-6	0.1	-	<0.1	-	-
Resin	Confidential	22	27	24	23	20
Pigment (Titanium dioxide)	13463-67-7	22	16	30	36	40
Pigment (Aluminium hydroxide)	21645-51-2	<1	<1	1	1	1
Pigment (Silicon dioxide)	7631-86-9	<1	<1	1	1	1
Carbon black	1333-86-4	-	-	-	-	-
Pigment	Confidential	1	1	-	1	-
Pigment (Copper compound)	Confidential	<1	2	1	-	-
Body pigment (Calcium carbonate)	471-34-1	-	5	-	-	-
Oil dye	Confidential	1	-	-	-	-
Oil dye (Copper compound)	Confidential	-	-	-	-	-
Addition-agent etc.	Confidential	1	2	1	1	1

(specifications of the ink formulation)

Copper compound : Blue 0.33%, Green 0.09%, Brown 0.01%, Violet 0.4%, Sky Blue 0.05% as Cu

[Impurities (The chemical listed by Japanese regulations.

Their concentration is less than the cutoff value.]

Ethylbenzene(100-41-4) : [content rate : Black 0.06%, Red 0.04%, Blue 0.04%, Green 0.04%,

Yellow 0.05%, Brown 0.07%, Violet 0.1%, Sky Blue 0.06%, Pink 0.06%, White 0.05%]

Ethylenediamine(107-15-3) : [content rate : Black <0.01%]

Xylene(1330-20-7) : [content rate : Black 0.06%, Red 0.11%, Blue 0.15%, Green 0.15%,

Yellow 0.05%, Brown 0.13%, Violet 0.1%, Sky Blue 0.09%, Pink 0.07%, White 0.05%]

Cumene(98-82-8) : [content rate : Red 0.01%, Green 0.01%, Brown 0.01%, Sky Blue 0.01%]

Vinyl acetate(108-05-4) : [content rate : Black 0.01%]

2,6-Di-tert-butyl-4-methylphenol(128-37-0) : [content rate : Yellow <0.01%]

1,2,4-Trimethylbenzene(95-63-6) : [content rate : Red 0.08%, Green 0.10%, Brown 0.10%, Sky Blue 0.04%]

1,3,5-Trimethylbenzene(108-67-8) : [content rate : Red 0.02%, Green 0.03%, Brown 0.03%, Sky Blue 0.01%]

Toluene(108-88-3) : [content rate : Black 0.01%, Red <0.01%, Blue 0.01%, Green <0.01%,

Brown <0.01%, Sky Blue <0.01%]

Naphthalene(91-20-3) : [content rate : Blue 0.07%, Sky Blue 0.03%]

Poly(oxyethylene) alkyl ether (alkyl C=12-15) : [content rate : Red 0.02%, Blue 0.01%, Green 0.03%,
Yellow 0.04%, Brown 0.03%, Violet 0.03%, Sky Blue 0.05%, Pink 0.06%, White 0.06%]
Acetone(67-64-1) : [content rate : Black 0.01%]
Indene(95-13-6) : [content rate : Blue 0.07%]
Diisobutyl ketone(108-83-8) : [content rate : Red 0.01%, Blue 0.02%, Green 0.01%, Brown 0.01%,
Sky Blue 0.01%]
Cyclohexanone(108-94-1) : [content rate : Red 0.04%, Blue 0.04%, Green 0.05%, Yellow 0.07%,
Brown 0.05%, Violet 0.04%, Sky Blue 0.07%, Pink 0.09%, White 0.1%]
1-Butanol(71-36-3) : [content rate : Black 0.1%]
Methanol(67-56-1) : [content rate : Black <0.01%]
Methyl isobutyl ketone(108-10-1) : [content rate : Black <0.01%, Blue 0.6%, Sky Blue 0.3%]

4. First aid measures

INHALATION : Remove to fresh air. Keep at rest.
SKIN CONTACT : Wash skin with soap and water. Wash contaminated clothing before use.
If irritation is continued, get medical attention.
EYE CONTACT : Flush eyes with generous amounts of water.
If eye irritation persists, get medical attention.
INGESTION : If Swallowed, Rinse mouth. Do not induce vomiting.
Never give anything by mouth to an unconscious person.
Call a doctor/physician.

5. Fire-fighting measures

EXTINCTION METHOD : Fire is extinguished from the windward by using extinguishing media.
EXTINGUISHING MEDIA : Dry chemical powder, carbon dioxide, foam etc.

6. Accidental release measures

Do not get in eyes or on skin. Ventilate area.
Avoid release to the the environment.
Wipe up the spilt ink with absorbent material(cloth etc.).
Keep away from ignition sources such as heat, sparks or open flame.

7. Handling and storage

HANDLING : Avoid contact with skin or eyes. Recap after use.
Use only in the well-ventilated areas.
Do not treat near the fire, the spark, and the high temperature.
Do not eat, drink or smoke when using this product.
STORAGE : Keep away from sunlight. Keep cool and dry in a well-ventilated area.
Keep away from reach of children.

8. Exposure controls / Personal protection

EXPOSURE LIMIT : Non established.
VENTILATION : Use in well ventilated area.
PERSONAL PROTECTION : None. Avoid contact with skin or eyes.

Ingredients	CAS No.	ACGIH 2010 TLV
m-Xylene	108-38-3	TWA 100ppm
Butyl acetate	123-86-4	TWA 150ppm
Methyl isobutyl ketone	108-10-1	TWA 20ppm

9. Physical and chemical properties

PHYSICAL STATE : liquid (Each color)
 ODOR : Solvent odor
 Relative density : Black about 0.9, Others about 1.3
 Flash point : Black 28 °C(close: Butyl acetate) , Others 27.5 °C(close: m-Xylene)
 Ignition point : Black 420 °C(Butyl acetate), Others 528 °C(m-Xylene)
 Boiling point : Black 126 °C (Butyl acetate), Others 139 °C(m-Xylene)
 Percent volatile by volume : about 37 - 75%
 Vapor pressure (20°C) : Black 10 mmHg (Butyl acetate), Others 5mmHg(m-Xylene)
 Vapor density (air=1) : Black 4.0(Butyl acetate), Others 3.7(m-Xylene)
 Flammability limits : Black Lower 1.2vol% Upper 7.6vol% (Butyl acetate)
 Others Lower 1.1vol% Upper 7.0vol% (m-Xylene)
 Solubility in water : Insoluble (For dry solid)

10. Stability and reactivity

Not data available : Stable under normal conditions of use.

11. Toxicological information

Product (Ink) : Not data available

Ingredients of raw materials :

ACUTE TOXICITY

Butyl acetate : Oral LD50 (rat) 14130mg/kg
 Dermal LD50 (rabbit) 17600mg/kg
 m-Xylene : Oral LD50 (rat) 5000mg/kg
 Dermal LD50 (rabbit) 12180mg/kg
 Methyl isobutyl ketone : Oral LD50 (rat) 2919mg/kg
 Dermal LD50 (rabbit) 3000mg/kg
 Titanium dioxide : Oral LD50 (rat) >10000mg/kg
 Dermal LD50 (rabbit) >10000mg/kg
 Carbon black : Oral LD50 (rat) 15400mg/kg

Carcinogenicity :

m-Xylene : IARC 3(Not classifiable as to its carcinogenicity to humans)
 ACGIH A4 (Not Classifiable as a Human Carcinogen)
 Carbon black : IARC 2B (Possibly carcinogenic to humans)
 ACGIH A4 (Not Classifiable as a Human Carcinogen)
 Titanium dioxide : IARC 2B (Possibly carcinogenic to humans)
 ACGIH A4 (Not Classifiable as a Human Carcinogen)

GHS classification (JAPAN)

	Classification
Butyl acetate	Acute Tox. 3 (Vapours) Acute Tox. 4 (Mist) Skin Irrit. 3 Eye Irrit. 2B STOT SE 1 (central nervous systems) STOT SE 2 (lung) STOT SE 3 (respiratory tract irritation)
m-Xylene	Skin Irrit. 2 Eye Irrit. 2A Repr. 2 STOT SE 3 (narcotic effects) STOT RE 1 (nervous) Asp. Tox. 1
Titanium dioxide	Eye Irrit. 2B STOT SE 3 (respiratory tract irritation) STOT RE 1 (lung)
Carbon black	Carc. 2 STOT RE 1 (lung)

Methyl isobutyl ketone	Acute Tox. 5 (Oral) Acute Tox. 5 (Dermal) Acute Tox. 3 (Vapours) STOT SE 3 (narcotic effects, narcotic effects) STOT RE 1 (systematic toxicity) Asp. Tox. 1
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12. Ecological information

Product (Ink) : Not data available

GHS classification (JAPAN)

Butyl acetate : Aquatic Acute 3
m-Xylene : Aquatic Acute 2
Titanium dioxide : Aquatic Chronic 4

13. Disposal considerations

Dispose in accordance with local state and federal regulations.

14. Transport information

Protect from sunlight, keep away from heat, Note the water wet.
Avoid rough handling.
Follow all regulations in your countries.

Shipping name : Marking Pen

The amount of filling ink : (The liquid ink of regulated amount is put in the container (Pen body).
The ink will emerge only through the porous writing nib.)

Magic Opaque Color No. 550

Black : 8.0g (about 9ml) per piece
Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink : 9.0g (about 7ml) per piece
White : 10.0g (about 8ml) per piece

Magic Opaque Color No. 551

Black : 5.0g (about 6ml) per piece
Red, Blue, Green, Yellow, Brown, Violet, Sky Blue, Pink : 6.0g (about 5ml) per piece
White : 6.5g (about 5ml) per piece

For ink :

UN Hazard Class : 3, Flammable liquid (P.G. II)
UN NUMBER : 1993


15. Regulatory information

Follow all regulations in your countries.

16. Other informations

Substances do not directly mean legally regulated. It depends on use and other conditions.

*To the best of our knowledge, the information contained here is accurate.
Final determination of suitability of any material is the sole responsibility of the user.
All materials may present unknown hazards as described herein, we cannot guarantee that these are the only hazards that exist.*



prepared by chief of laboratory