1 Identification

· **Product identifier**

· **Trade name: Ink for PM-701 Permanent Marker(Black)**

· **Article number:** 100000001129
· **Relevant identified uses of the substance or mixture and uses advised against**
Currently no such applications are identified
· **Application of the substance / the mixture** alcohol based permanent marking ink

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
ZEBRA CO., LTD.
2-9 Higashi-gokencho Shinjuku-ku Tokyo JAPAN
Phone:+81-3-3268-1193
Fax:+81-3-3268-1197
Emergency telephone : +81-3-3268-1193
This phone number is available only during office hours:
9am to 5:30pm (Japan time)

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.

GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

Aquatic Acute 2 H401 Toxic to aquatic life.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
propan-1-ol
1-methoxy-2-propanol

(Contd. on page 2)

(Contd. of page 1)

C. I. Solvent Orange 3
Benzenesulfonic acid, 4-C10-13-sec-alkylderivs.

· **Hazard statements**
Flammable liquid and vapor.
Causes skin irritation.
Causes serious eye damage.
Suspected of causing genetic defects.
May cause drowsiness or dizziness.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves / eye protection / face protection.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Use only non-sparking tools.
Avoid release to the environment.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
Mixture of the following substances, containing non-hazardous substances and colouring agents.
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

107-98-2	1-methoxy-2-propanol	25-50%
71-23-8	propan-1-ol	25-50%
85536-14-7	Benzenesulfonic acid, 4-C10-13-sec-alkylderivs.	2.5-10%
84281-86-7	C. I. Solvent Violet 8	2.5-10%
495-54-5	C. I. Solvent Orange 3	2.5-10%
6786-83-0	C. I. Solvent Blue 4 < 0,1% Michler's Ketone	≤1.0%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

(Contd. on page 3)

(Contd. of page 2)

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:**
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Storage class:** 3
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

(Contd. on page 4)

(Contd. of page 3)

107-98-2 1-methoxy-2-propanol (25-50%)	
REL	Short-term value: 540 mg/m³, 150 ppm Long-term value: 360 mg/m³, 100 ppm
TLV	Short-term value: 369 mg/m³, 100 ppm Long-term value: 184 mg/m³, 50 ppm
71-23-8 propan-1-ol (25-50%)	
PEL	Long-term value: 500 mg/m³, 200 ppm
REL	Short-term value: 625 mg/m³, 250 ppm Long-term value: 500 mg/m³, 200 ppm Skin
TLV	Long-term value: 246 mg/m³, 100 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	According to product specification
· **Odor:**	Product specific
· **Odor threshold:**	Not determined.
· **Important information on protection of health and environment, and on safety.**	-
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	96 °C (205 °F)
· **Flash point:**	23 °C (73 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	287 °C (549 °F)

(Contd. on page 5)

(Contd. of page 4)

· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	1.7 Vol %
Upper:	13.5 Vol %
· **Vapor pressure at 20 °C (68 °F):**	19 hPa (14 mm Hg)
· **Density at 20 °C (68 °F):**	0.85 g/cm³ (7.093 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic at 20 °C (68 °F):	4.5 mPas
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	80.1 %
Solids content:	14.8 %
· **Other information**	The physical and chemical properties given in Section 9.1 are rough data only, which are partially derived from the component's data of the mixture. These data are no binding product specifications.

* 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

* 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
71-23-8 propan-1-ol		
Oral	LD50	8000 mg/kg (rat)
Dermal	LD50	4000 mg/kg (rab)
Inhalative	LC50/4 h	33.8 mg/l (rat)
85536-14-7 Benzenesulfonic acid, 4-C10-13-sec-alkylderivs.		
Oral	LD50	1350 mg/kg (rat)
84281-86-7 C. I. Solvent Violet 8		
Oral	LD50	700 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.
· **NTP (National Toxicology Program)**
None of the ingredients is listed.

(Contd. on page 6)

(Contd. of page 5)

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1263
· **UN proper shipping name**	
· **DOT**	Paint
· **ADR**	1263 Paint, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	PAINT (chrysoidine), MARINE POLLUTANT
· **IATA**	PAINT

· **Transport hazard class(es)**

· **DOT**

· **Class**	3 Flammable liquids
· **Label**	3

· **ADR**

· **Class**	3 (F1) Flammable liquids
· **Label**	3

(Contd. on page 7)
US

(Contd. of page 6)

· **IMDG**

· **Class**	3 Flammable liquids
· **Label**	3

· **IATA**

· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **Environmental hazards:**	Product contains environmentally hazardous substances: chrysoidine
· **Marine pollutant:**	Yes
	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Flammable liquids
· **Danger code (Kemler):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
· **Remarks:**	Special marking with the symbol (fish and tree).
· **ADR**	
· **Excepted quantities (EQ)**	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· **Remarks:**	1263 Paint (dye-stuff C.I. Solvent Orange 3), Marine Pollutant
· **UN "Model Regulation":**	UN 1263 PAINT, 3, III, ENVIRONMENTALLY HAZARDOUS

*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

(Contd. on page 8)
US

(Contd. of page 7)

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **DSL/NDSL (Canada)** All ingredients are listed

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

71-23-8	propan-1-ol	A4

· **MAK (German Maximum Workplace Concentration)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
propan-1-ol
1-methoxy-2-propanol
C. I. Solvent Orange 3
Benzenesulfonic acid, 4-C10-13-sec-alkylderivs.

· **Hazard statements**
Flammable liquid and vapor.
Causes skin irritation.
Causes serious eye damage.
Suspected of causing genetic defects.
May cause drowsiness or dizziness.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves / eye protection / face protection.
Ground/bond container and receiving equipment.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Use only non-sparking tools.
Avoid release to the environment.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
NK	50-100

· **Water hazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

(Contd. on page 9)

(Contd. of page 8)

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 06/14/2016 / 17

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flam. Liq. 3: Flammable liquids - Category 3
Skin Irrit. 2: Skin corrosion/irritation - Category 2
Eye Dam. 1: Serious eye damage/eye irritation - Category 1
Muta. 2: Germ cell mutagenicity - Category 2
STOT SE 3: Specific target organ toxicity (single exposure) - Category 3
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard - Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

· *** Data compared to the previous version altered.**