SECTION 1: Identification of the substance/mixture and of the company/undertaking

1. Identification of the mixture and of the company

1.1- Product identifier

Product name : Ink for following items:

- Mckie Paint Marker (White) YYT20-W
- Mckie Paint Marker Extra Fine (White) YYTS20-W

1.2 - Relevant identified uses of the substance or mixture and uses advised against

- ·Use of the substance/mixture : Ink for writing implement
- ·Recommended restrictions on use : No information available
- ·Uses Advised Against : No information available

1.3 - Details of the suplier of the SDS

- ·Impoter : ZEBRA PEN UK LTD. Magyarorszagi Fioktelepe Hungarian Branch
  1039 Budapest, P ü nk ö sdf ü rd ö u. 52. HUNGARY
  TEL : +36-1-630-9173
  FAX : +36-1-308-3368
- ·Manufacture : ZEBRA CO., LTD.
  2-9 Higashi-gokencho Shinjuku-ku Tokyo JAPAN
  TEL : +81-3-3268-1191
  FAX : +81-3-3268-1197

1.4 - Emergency telephone number

- ·Impoter : +49-2131-178-2900
- ·Manufacture : +81-3-3268-1191
  This phone number is available only during office hours: 9 a.m. to half past 5 p.m. (Japan time)

SECTION 2: Hazards Identification

2.1: Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 and GB CLP			
Hazard class	**Hazard category**	**Target organs**	**Hazard statements**
Flammable liquids	2	n/a	H225
Serious eye damage/eye irritation	2	eyes	H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects: Highly flammable liquid and vapour. Causes serious eye irritation.

2.2: Label Elements

Labelling according to Regulation (EC) No. 1272/2008 and GB CLP

Hazard Symbols:

Signal word: **DANGER**

Hazard statements:
H225 Highly flammable liquid and vapour
H319 Causes serious eye irritation

Precautionary statements:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P243 Take precautionary measures against static discharge
P280 Wear protective gloves/protective clothing/eye protection
P305/P351/P338 IF IN EYES: rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do. Continue rinsing
P337/P313 If eye irritation persists: get medical advice/attention
P403/P235 Store in a well-ventilated place. Keep cool.

2.3: Other hazards

EUH211: Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist

SECTION 3: Composition / information on ingredients

3. Composition/information on ingredients

3.1 Substance : Not applicable

3.2 Mixture

Component and Amount

Component	Amount	CAS No.	EC No.	Reach No.	Hazard Statement and Class	
Ethanol	<50%	64-17-5	200-578-6	—	H225	Flammable liq. 2
					H319	Eye Irrit. 2
Titanium dioxide	<30%	13463-67-7	236-675-5	—		
Resins	<30%	Nondisclosure	Nondisclosure	—		

* See (EC)No 1272/2008 Annex VI Section 1.2.1.

** Exempt from REACH Registry.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: Description of first aid measures

4.1: Description of first aid measures

4.1.1: General advice:

Take off all contaminated clothing immediately.

4.1.2: In case of inhalation:

Remove to fresh air. If symptoms persist, seek medical advice. If unconscious place in recovery position.

4.1.3: In case of skin contact:

Wash off with plenty of water. If skin irritation persists, seek medical advice.

4.1.4: In case of eye contact:

Rinse thoroughly with plenty of water, also under the eyelids. Consult an eye specialist immediately.

4.1.5: In case of ingestion:

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label.

4.1.6: Self-protection for first aider:

Wear appropriate PPE to prevent contamination of skin, eyes and personal clothing.

4.2: Most important symptoms and effects, both acute and delayed

Causes serious eye irritation**.**

4.3: Indication of immediate medical attention and special treatment needed

Treat symptomatically. No further information available

SECTION 5: Firefighting measures

5.1: Extinguishing media

5.1.1: Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide (do not use carbon dioxide in enclosed spaces).

5.1.2: Unsuitable extinguishing media:

High volume water jet.

5.2: Special hazards arising from the substance or mixture

Highly flammable. Vapours may form explosive mixtures with air. Flash back possible. In case of fire hazardous decomposition products may be produced, such as carbon monoxide (CO) and carbon dioxide (CO_2).

5.3: Advice for firefighter

5.3.1: Special protective equipment for firefighters:

In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit).

5.3.2: Further information:

Cool closed containers exposed to fire with water spray. Heating will cause a pressure rise – with risk of bursting. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1: Personal precautions, protective equipment and emergency procedures

6.1.1: For non-emergency personnel

Protective equipment:
Wear appropriate PPE to prevent contamination of skin, eyes and personal clothing.

Emergency procedures:
Provide adequate ventilation. Keep away from heat and sources of ignition. Avoid contact with skin and eyes. Do not breathe vapours. Evacuate the area.

6.1.2: For emergency responders

Tight fitting safety goggles, appropriate gloves, and protective clothing (please refer to Section 8).

6.2: Environmental precautions

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Do not allow to contaminate ground water system.

6.3: Methods and materials for containment and cleaning up

6.3.1: For containment

Contain spillage using bunding. Cover drains where possible. Re-cap leaking containers and take whatever steps possible to prevent further leakage.

6.3.2 – For cleaning up

Collect with non-combustible absorbent material (for example, sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

6.3.3 – Other information

Treat recovered material as described in Section 13.

6.4: Reference to other sections

For personal protection see Section 8.

Section 7: Handling and storage

7.1: Precautions for safe handling

7.1.1: Protective measures:

Keep container tightly closed. Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breath vapours. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

7.1.2: Measures to prevent fire:

Combustible liquid. Keep away from sources of ignition – no smoking. Take measures to prevent the build-up of electrostatic charge. Vapours may form explosive mixtures in air. Use only in an area containing explosion proof equipment.

7.1.3: Measures to prevent aerosol and dust generation:

Avoid generating any spray mist. Ensure all equipment is electrically grounded before beginning transfer operations.

7.1.4: Measures to protect the environment:

Do not let product enter drains. If the product contaminates rivers and lakes or drains inform respective authorities.

7.1.5: Advice on general occupational hygiene:

Keep away from food, drink, and animal feeding stuffs. Smoking, eating, and drinking should be prohibited in the application area. Wash hands before breaks and at the end of the working day. Take off all contaminated clothing.

7.2: Conditions for safe storage, including any incompatibilities

7.2.1: Technical measures and storage conditions:

Combustible liquid. Keep away from sources of ignition – no smoking. Take measures to prevent the build-up of electrostatic charge. Vapours may form explosive mixtures in air. Use only in an area containing explosion proof equipment.

7.2.2: Packaging materials:

Store tightly closed in original container.

7.2.3: Requirements for storage rooms and vessels:

Use only in an area containing explosion proof equipment. Ensure all equipment is electrically grounded before beginning transfer operations. Take measures to prevent the build-up of electrostatic charge.

7.2.4 – Further information on storage conditions:

Keep tightly closed in a cool and dry place. Keep away from direct sunlight. Keep in a well-ventilated place. Keep away from food, drink and animal feedstuffs. Do not store together with oxidizing and self-igniting products. Incompatible with strong acids. oxidizing agents and alkaline earth metals.

7.3: Specific end use(s)

7.3.1: Recommendations:

Preparation for use in writing instruments. Please refer to sections 7.1 and 7.2

7.3.2: Industrial sector specific solutions:

No information available.

SECTION 8: Exposure controls/personal protection

8.1: Control parameters

SUBSTANCE NAME: Ethanol								
EC number: 200-578-6					**CAS number: 64-17-5**			
DNELs								
Route of exposure	**Workers**				**Consumers**			
	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required					No hazard identified	No hazard identified	87 mg/kg bw/day
Inhalation	1900 mg/m^3	No hazard identified	No hazard identified	950 mg/m^3	950 mg/m^3	No hazard identified	No hazard identified	114 mg/m^3
Dermal	No hazard identified	No hazard identified	No hazard identified	343 mg/kg bw/day	No hazard identified	No hazard identified	No hazard identified	206 mg/kg bw/day

PNECs	
Environmental protection target	PNEC
Fresh water	960 µg/L
Freshwater sediments	3.6 mg/kg d.w.
Marine water	790 µg/L
Marine sediments	2.9 mg/kg d.w.
Food chain	380 – 720 mg/kg food
Microorganisms in sewage treatment	580 mg/L
Soil (agricultural)	630 µg/kg d.w.
Air	No hazard identified

8.2: Exposure controls

8.2.1: Appropriate engineering controls:

Ensure adequate ventilation. Refer to protective measures listed in Sections 7 and 8.

8.2.2: Individual protection measures, such as personal protective equipment:

8.2.2.1: Eye/face protection:

Tight fitting safety goggles.

8.2.2.2: Skin protection:

Hand protection:
Wear suitable gloves. Take note of the information given by the producer concerning permeability and breakthrough times, and of special workplace conditions (mechanical strain, duration of contact). Protective gloves should be replaced at first signs of wear. Butyl rubber, 0.5 mm, Fluorocarbon rubber, 0.4 mm.

Other skin protection:
Wear suitable protective clothing.

8.2.2.3: Respiratory protection:

Required, if exposure limit is exceeded. Respirator with a gas filter. Recommended filter type: A.

8.2.2.4: Thermal hazards:

Not applicable.

8.2.3: Environmental exposure controls:

Do not let product enter drains. If the product contaminates rivers and lakes or drains inform respective authorities. Refer to section 6 for further information.

SECTION 9: Physical and chemical properties

9.1: Information on basic physical and chemical properties

Physical state:	liquid
Colour:	various
Odour:	Alcohol-like, odour threshold - no data available
Melting point / freezing point:	-114.5°C (ethanol)
Boiling point:	78.3°C (ethanol)
Flammability:	Highly flammable
Upper/lower flammability or explosive limits:	15% (V), 3.5% (V) (ethanol)
Flash point:	13°C (ethanol)
Auto-ignition temperature:	363°C (ethanol)
Decomposition temperature:	Not applicable (only applies to self-reactive substances and mixtures)
pH:	7 to 10 (100%)
Viscosity:	4 to 10 mm^2/s
Solubility:	Partially miscible in water, fully miscible with other solvents
Partition coefficient: n-octanol/water:	Not applicable (does not apply to mixtures)
Vapour pressure:	57.26 hPa @ 19.6 – 19.65°C (ethanol)
Absolute density:	$0.83 g/cm^3$
Relative density:	0.79 – 0.8 @ 20°C (ethanol)
Particle characteristics:	Not applicable (only applies to solids)

9.2 - Other information

Not applicable (the mixture is a flammable liquid, see 9.1)

SECTION 10: Stability and reactivity

10.1 – Reactivity

Vapours may cause explosive mixtures with air.

10.2 - Chemical Stability

Stable under normal storage conditions.

10.3 – Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

10.4 – Conditions to avoid

Keep away from heat and sources of ignition (such as flames, sparks, extreme heat and direct sunlight).

10.5 – Incompatible materials

Alkali metals, alkaline earth metals, strong oxidizing agents, strong acids.

10.6 – Hazardous decomposition products

Under fire conditions: carbon monoxide (CO), carbon dioxide (CO_2).

SECTION 11 – Toxicological information

11.1 – Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 – Acute toxicity

Ethanol (CAS No. 64-17-5)
Oral
LD50 1 187 - 15 010 mg/kg bw (rat)
Inhalation
LC50 (4 h) 115.9 - 133.8 mg/L air (rat)
Dermal
No data available
Other routes
No data available

11.1.2 – Skin corrosion/irritation

Ethanol (CAS No. 64-17-5)
No adverse effect observed (not irritating)

11.1.3 – Serious eye damage/irritation

Ethanol (CAS No. 64-17-5)
Adverse effect observed (irritating)

11.1.4 – Respiratory or skin sensitisation

Ethanol (CAS No. 64-17-5)
Skin
No adverse effect observed (not sensitising)
Respiratory
No adverse effect observed (not sensitising)

11.1.5 – Germ cell mutagenicity

Ethanol (CAS No. 64-17-5)
No data available

11.1.6 – Carcinogenicity

Ethanol (CAS No. 64-17-5)
No data available

11.1.7 – Reproductive toxicity

Ethanol (CAS No. 64-17-5)
Effect on fertility – oral route
No adverse effect observed NOAEL 20 700 mg/kg bw/day (subchronic, mouse)

Effect on developmental toxicity – inhalation route
No adverse effect observed NOAEC 30 400 mg/m³ (subchronic, rat)

11.1.8 – Summary of evaluation of the CMR properties

No data available.

11.1.9 – STOT-single exposure

Ethanol (CAS No. 64-17-5)
No data available

11.1.10 – STOT-repeated exposure

Ethanol (CAS No. 64-17-5)
Oral
NOAEL (mouse): 9 400 mg/kg bw (total dose)
Inhalation
NOAEC (mouse): 1.3 mg/L air
Dermal
No data available

11.1.11 – Aspiration hazard

Ethanol (CAS No. 64-17-5)
No data available

SECTION 12 – Ecological information

12.1 – Toxicity

12.1.1 – Acute (short term) toxicity fish

Ethanol (CAS No. 64-17-5)
LC50 (4 days) 14.2 - 15.4 g/L

12.1.2 – Acute (short term) toxicity crustacea

Ethanol (CAS No. 64-17-5)
LC50 (48 h) 5.012 g/L

12.1.3 – Acute (short term) toxicity algae/aquatic plants

Ethanol (CAS No. 64-17-5)
Algae
EC50 (72 h) 275 mg/L
Aquatic plants other than algae
No data available

12.1.4 – Acute (short term) toxicity other organisms

Ethanol (CAS No. 64-17-5)
Microorganisms
EC50 (4 h) 5.8 g/L

12.1.5 – Chronic (long term) toxicity fish

Ethanol (CAS No. 64-17-5)
NOAEC (5 days) 250 - 1 000 mg/L

12.1.6 – Chronic (long term) toxicity crustacea

Ethanol (CAS No. 64-17-5)
NOAEC (10 days) 2 - 9.6 mg/L

12.1.7 – Chronic (long term) toxicity algae/aquatic plants

Ethanol (CAS No. 64-17-5)
Algae
EC50 (4 days) 675 - 22 000 mg/L
Aquatic plants other than algae
EC50 (7 days) 4.432 - 5.967 g/L

12.1.8 – Chronic (long term) toxicity other organisms

Ethanol (CAS No. 64-17-5)
No data available

12.2 - Persistence and biodegradability

12.2.1 – Abiotic degradation

Ethanol (CAS No. 64-17-5)
Phototransformation in air
Dissipation half life (DT50)
2.8 - 13.8 h

12.2.2 – Physical and photo-chemical elimination

Ethanol (CAS No. 64-17-5)
No data available

12.2.3 – Biodegradation

Ethanol (CAS No. 64-17-5)
Biodegradation in water – screening tests
Readily biodegradable (100%)

12.3 – Bioaccumulative potential

Ethanol (CAS No. 64-17-5)
No data available

12.3.1 – Partition coefficient n-octanol / water (log Kow)

Ethanol (CAS No. 64-17-5)
-0.35 @ 20 - 24 °C

12.3.2 – Bioconcentration factor (BCF)

Ethanol (CAS No. 64-17-5)
No data available

12.4 – Mobility in soil

Ethanol (CAS No. 64-17-5)
No data available

12.4.1 – Known or predicted distribution to environmental compartments

Ethanol (CAS No. 64-17-5)
No data available

12.4.2 – Surface tension

Ethanol (CAS No. 64-17-5)
No data available

12.4.3 – Adsorption/desorption

Ethanol (CAS No. 64-17-5)
No data available

12.5 – Results of PBT and vPvB assessment

Ethanol (CAS No. 64-17-5)
This substance is not a PBT or a vPvB

12.6 – Endocrine disrupting properties

Ethanol (CAS No. 64-17-5)
No data available

12.7 – Other adverse effects

Ethanol (CAS No. 64-17-5)
No data available

12.8 – Additional information

No additional information available.

SECTION 13 – Disposal considerations

13.1 – Waste treatment methods

13.1.1 – Product / Packaging disposal

Disposal together with normal waste is not allowed. Special disposal is required according to regional, national, and European legislation. Do not empty into drains. Contact waste disposal services. Contaminated packaging should be emptied thoroughly. It can be recycled after thorough and proper cleaning. Packaging that cannot be cleaned should be disposed of in the same manner as the product. Do not burn or use a cutting torch on the empty drum. Risk of explosion.

13.1.2 – Waste treatment – relevant information

No information available – treat as hazardous waste and dispose of in accordance with regional, national and European legislation.

13.1.3 – Sewage disposal – relevant information

Do not allow to enter the sewage system.

13.1.4 – Other disposal recommendations

No further information available.

SECTION 14 – Transport Information

14.1 - UN Number

1993

14.2 – UN proper shipping name

ADR:	Flammable Liquid n.o.s (contains ethanol)
RID:	Flammable Liquid n.o.s (contains ethanol)
IMDG:	Flammable Liquid n.o.s (contains ethanol)
IATA-DGR :	Flammable Liquid n.o.s (contains ethanol)

14.3 – Transport hazardous class(es)

Labels/classification code/ hazard identification number /tunnel restriction code

ADR:	3; F1 ; 33 : (D/E)
RID:	3 ; F1 ; 33
IMDG :	3 ; (F-E, S-E)
IATA-DGR :	3

14.4 - Packing group

ADR:	II
RID:	II
IMDG:	II
IATA-DGR :	II

14.5 - Environmental hazards

Labelling according to 5.2.1.8 ADR:	No
Labelling according to 5.2.1.8 RID:	No
Labelling according to 5.2.1.6.3 IMDG:	No
Labelling according to IATA-DGR:	No
Classification as environmentally hazardous according to 2.9.3 IMDG:	No
Classified as 'P' according to 2.10 IMDG:	No

14.6 - Special precautions for user

No information available.

14.7 – Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15 – Regulatory Information

15.1 – Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No. 1907/2006 (REACH)
Regulation (EC) No. 2020/878 Annex II
Regulation (EC) No. 1272/2008 (CLP)
Regulation (EC) No 1907/2006 (REACH), Article 57 SVHC Candidate list – none
UN GHS
GB CLP
GB MCL

International Inventories:

Europe (EINECS):	all components are listed or exempt
US (TSCA):	all components are listed or exempt
Canada (DSL/NDSL):	at least one component is not determined
Japan (ENCS):	at least one component is not listed
Philippines (PICCS):	all components are listed or exempt
China (IECSC):	all components are listed or exempt
Australia (AICS):	all components are listed or exempt
Korea (KECL):	at least one component is not determined
New Zealand (NZIoC):	all components are listed or exempt
Taiwan (TCSI):	at least one component is not determined

15.2 - Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

SECTION 16 – Other Information

16.1 – Indication of changes

SDS amended in accordance with Regulation (EC) No. 2020/878 Annex II

16.2 – Abbreviations and acronyms

ADR:	Accord européen relatif au transport international des marchandises Dangereuses par Route (The European Agreement concerning the International Carriage of Dangerous Goods by Road).
ATE:	Acute Toxicity Estimate
BCF:	Bio Concentration Factor
CLP:	Classification, Labelling and Packaging
DNEL:	Derived No Effect Level
DT50:	Half life
EC:	European Commission
EC50:	Effective Concentration Limit (half maximal)
GB CLP:	Great Britain Classification, Labelling and Packaging
GB MCL:	Great Britain Mandatory Classification List
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods
LC50:	Lethal Concentration (50% of sample population)

LD50:	Lethal Dose (50% of sample population)
M-Factor:	Multiplying Factor
NOAEC:	No Observed Adverse Effect Concentration
NOAEL:	No Observed Adverse Effect Level
PBT:	Persistent, bioaccumulative and toxic
PNEC:	Predicted No Effect Concentration
PPE:	Personal Protective Equipment
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
SCL:	Specific Concentration Limit
STOT:	Specific Target Organ Toxicity
UFI:	Unique Formula Identifier code
UN GHS:	United Nations Globally Harmonised System
vPvB:	Very persistent, very bioaccumulative

16.3 - Key literature references and sources for data

European Chemicals Agency (ECHA) - information on chemicals

16.4 – Classification and procedures used to derive the classification for mixtures according to Regulation (EC) No. 1272/2008 (CLP) and GB CLP

Hazard class	Hazard category	Classification procedure
Flammable liquids	2	Calculation method
Serious eye damage/eye irritation	2	Calculation method

16.5 – Relevant H-statements (number and full text)

H225: Highly flammable liquid and vapour
H319: Causes serious eye irritation

16.6 - Training advice

None.

16.7 - Further information

None.

The information provided in this safety data sheet is correct to our knowledge at the date of its revision. The information given only describes the products regarding safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this safety data sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.