



COLOR INK PP PAMC

SAFETY DATA SHEET

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

- 1.1. Product identifier: COLOR INK PP PAMC
- 1.2. Relevant identified uses of the substance or mixture and uses advised against: Printing ink.
ERC: 11a, 2, 5, 8c
PROC: 19, 2, 3, 5, 8a, 8b, 9
PC: 18
- 1.3. Details of the supplier of the safety data sheet: Ichemco srl
via 11 Settembre, 5
20012 Cuggiono (MI)
Italy
- Email address of the competent person: safety@ichemco.it
- 1.4. Emergency telephone number: 24hrs, UK: 844 892 0111; EU: +32 3 575 55 55
- Further information obtainable from: Product safety department

SECTION 2: Hazards identification

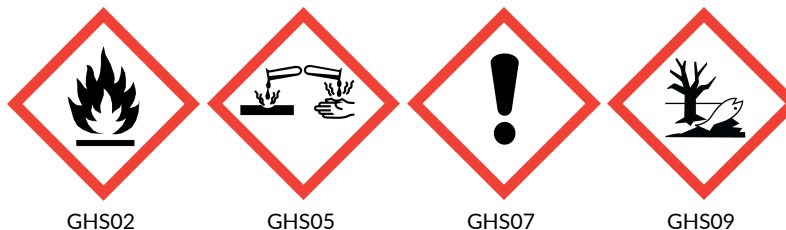
2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No. 1272/2008 (CLP)

| | |
|------------------------|---|
| Flam. Liq. 2;H225 | Highly flammable liquid and vapour. |
| Skin Irrit. 2;H315 | Causes skin irritation. |
| Eye Dam. 1;H318 | Causes serious eye damage. |
| STOT SE 3;H336 | May cause drowsiness or dizziness. |
| Aquatic Acute 1;H400 | Very toxic to aquatic life. |
| Aquatic Chronic 1;H410 | Very toxic to aquatic life with long lasting effects. |

2.2. Label elements

Hazard pictograms:



GHS02

GHS05

GHS07

GHS09

Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

ICHEMCO srl

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Phone +39 02 97243.1 - Fax +39 02 97243.200 - email: info@ichemco.it - internet: www.ichemco.it

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P370+P378 In case of fire: Use suitable media (see MSDS for instruction) for extinction.

Contains: Isobutyl-alcohol - Heptane [and isomers] - Octane [and isomers] - 2-Propanol

2.3. Other hazards: On the basis of available data, the product does not contain PBT or vPvB substances in quantities $\geq 0.1\%$.
The product does not contain substances having properties of interference with the endocrine system in a concentration $\geq 0.1\%$.

SECTION 3: Composition/information on ingredients

3.1. Substances

n. a.

3.2. Mixtures

Substances presenting a health or environmental hazard within the meaning of directives 67/548/EEC, 1999/45/EC and 1272/2008 (CLP):

| CAS | EINECS | Registration n. | Denomination | Content | Classification(*) |
|----------|-----------|------------------|---|----------|---|
| 67-63-0 | 200-661-7 | 01-2119457558-25 | 2-Propanol | 20 - 25% | Eye Irrit. 2; H319 Flam. Liq. 2; H225 STOT SE 3; H336 LD50/dermal = 13900 mg/kg LD50/oral = 5840 mg/kg |
| 142-82-5 | 205-563-8 | 01-2119457603-38 | Heptane [and isomers] | 15 - 20% | Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 |
| 78-83-1 | 201-148-0 | 01-2119484609-23 | Isobutyl-alcohol 2-methylpropan-1-ol Isobutanol | 5 - 10% | Eye Dam. 1; H318 Flam. Liq. 3; H226 Skin Irrit. 2; H315 STOT SE 3; H335 STOT SE 3; H336 |
| 111-65-9 | 203-892-1 | 01-2119463939-19 | Octane [and isomers] | 4 - 4.5% | Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 |

(*) For full text of the H- and EUH-phrases, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures: If you feel unwell, seek medical advice. Take off immediately all contaminated clothing.

- Inhalation:** Move affected person to fresh air. Seek medical advice.
- Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice.
- Skin contact:** Wash immediately with large amounts of water. Remove contaminated clothing. If irritation persists, seek medical advice.
- Ingestion:** Consult physician or poison control center immediately. Do not induce vomiting if not asked by the physician. Do not give anything orally without medical authorization if subject is unconscious.

4.2. Most important symptoms and effects, both acute and delayed: n. a.

4.3. Indication of any immediate medical attention and special treatment needed: n. a.

SECTION 5: Firefighting measures

5.1. Extinguishing media: Foam, dry chemical powder, carbon dioxide (CO₂).

Extinguishing media which must not be used: Water Fire Extinguishers.

5.2. Special hazards arising from the substance or mixture: High temperature may liberate dangerous gases

5.3. Advice for firefighters: Independent apparatus for respiratory protection.

Recommendations: Do not use water jets. If possible, take away any dangerous containers. Do not stay in the direction of the bottoms of containers. Cool the containers with spray water from a safe position. Fire-fighters must wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

Stop the outpouring, if possible without hazard. Circumscribe the loss and remove it by absorbing on dry sand or other inert materials. Remove any possible source of ignition. Control vapours with spray water. Do not smoke. Avoid contact. If the product has contaminated soil or waters, inform public authorities.

6.1. Personal precautions, protective equipment and emergency procedures: Wear gloves, protective clothing, safety goggles, boots, and protection for the respiratory (breathing apparatus). Eliminate all unguarded flames and possible sources of ignition. Do not smoke. Move out of danger unprotected and unauthorized persons.

6.2. Environmental precautions: Prevent spillage of the material into sewers, groundwater and surface waters.

6.3. Methods and material for containment and cleaning up: Stop the outpouring, if possible without hazard. Circumscribe the loss and remove it by absorbing on dry sand or other inert materials.

6.4. Reference to other sections: Please also refer to Sections 8 and 13.

SECTION 7: Handling and storage

Avoid flames and radiant heating. This product must be stored, handled and used in hygienic and safe way, according to current regulations.

7.1. Precautions for safe handling: General ventilation is required. Local ventilation is recommended. Do not breathe vapour. Avoid skin and eye contact.

Advice on general occupational hygiene: (a) not to eat, drink and smoke in work areas;
(b) to wash hands after use; and
(c) to remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities: Store the product in fresh, ventilated areas, separated from heating sources. Floor must not be flammable, must be impermeable and must prevent pouring to the outside. Electric plant must comply to current regulations.

7.3. Specific end use(s): Nothing special to note about specific uses.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters:

| Substance: | TLW-TWA | | STEL | |
|-----------------------|---------|-------------------|------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ |
| Isobutyl-alcohol | 50 | 152 | | |
| Heptane [and isomers] | 400 | 1640 | 500 | 2050 |
| Octane [and isomers] | 300 | 1401 | 375 | 2331 |
| 2-Propanol | 200 | 492 | 400 | 983 |

2-Propanol: AGW (Germany) TWA/8h: 500 mg/m³; 200 ppm – STEL/15 min: 1000 mg/m³; 400 ppm

MAK (Germany) TWA/8h: 500 mg/m³; 200 ppm – STEL/15 min: 1000 mg/m³; 400 ppm

VLA (Spain) TWA/8h: 500 mg/m³; 200 ppm – STEL/15 min: 1000 mg/m³; 400 ppm

VLEP (France) STEL/15 min: 980 mg/m³; 400 ppm

WEL (UK) TWA/8h: 999 mg/m³; 400 ppm – STEL/15 min: 1250 mg/m³; 500 ppm
DNEL

Long term systemic effects/consumers/oral: 26 mg/kg; inhalation: 89 mg/m³;

dermal: 319 mg/kg – Workers/inhalation: 500 mg/m³; dermal: 888 mg/kg

PNEC

Microorganisms STP: 2251 mg/kg; soft water: 140.9 mg/kg; sediment (soft water):

552 mg/kg; sea water: 140.9 mg/kg; sediment (sea water): 552 mg/kg; terrestrial

compartment: 28 mg/kg; nutritional chain (secondary poisoning): 160 mg/kg; water,
intermittent release: 140.9 mg/kg

Heptane [and isomers]: TWA/8h: 2100 mg/m³ – 500 ppm MAK (Deu); 2085 mg/m³-500 ppm VLA (Esp);
1668 mg/m³-400 ppm VLEP (Fr); 2085 mg/m³-500 ppm WEL (GB); 2085 mg/m³-
500 ppm TLV (It); 2085 mg/m³-500 ppm OEL (EU)
STEL/15 min: 2100 mg/m³ – 500 ppm MAK (Deu); 2085 mg/m³-500 ppm VLEP
(Fr)

DNEL Chronic systemic effects

people/oral >149 mg/kg; people/inhalation >447 mg/m³; people/dermal >149
mg/kg

workers/inhalation>2085 mg/m³; workers/dermal>300 mg/kg

Isobutyl-alcohol: TWA/8h: 310 mg/m³ – 100 ppm AGW (Deu); 310 mg/m³ – 100 ppm MAK (Deu);
154 mg/m³-50 ppm VLA (Esp); 150 mg/m³-50 ppm VLEP (Fra); 154 mg/m³-50
ppm WEL (GB)

STEL/15 min: 310 mg/m³ – 100 ppm AGW (Deu); 310 mg/m³ – 100 ppm MAK
(Deu); 231 mg/m³-75 ppm WEL (GB)

DNEL

Consumer, chronic systemic effects, oral exposure > 25 mg/kg; local chronic effects,
inhalation > 55 mg/m³. Workers, local chronic effects, inhalation > 310 mg/m³

PNEC Reference values for

Microorganisms STP >10 mg/kg; soft water > 0,4 mg/kg; soft water sediments>1,52
mg/kg; sea water>0,04 mg/kg; sea water sediments>0,152 mg/kg; terrestrial
compartment>0,0699; water, intermittent release > 11 mg/kg

Octane [and isomers]: TWA/8h: 500 ppm MAK (Deu); 1420 mg/m³-300 ppm (VLA (Esp); 1450 mg/m³-300 ppm WEL (GB). STEL/15min: 1000 mg/m³-400 ppm MAK (Deu)
 DNEL
 Chronic systemic effects, people, oral >699 mg/kg; inhalation >608 mg/m³; dermal >699 mg/kg
 Chronic systemic effects, workers, dermal >773 mg/kg
 PNEC
 soft water: 0.00001 g/l; sea water: 0.00001 g/l; intermittent release (soft water): 0.00004 g/l; STP: 0.00016 g/l; sediment (soft water): 4 mg/kg; sediment (sea water): 4 mg/kg; soil: 1.6 mg/kg

8.2. Exposure controls: Ensure good ventilation and local exhaustion of the working area, to keep vapours concentration below the limits.

Appropriate engineering controls: Electric plant must comply to current regulations about use of flammable products.

Eye / face protection: Glasses with side protection ("cage" glasses) (EN166).

Hand protection: Neoprene or rubber gloves, suitable for chemical products (EN374).

Skin protection: Use full protective clothing for chemicals (working-dress, apron).
 Protective shoes.

Respiratory protection: Get shelter in the event of development of vapours/aerosols. Use special filter code A/P2.

Thermal hazards: n. a.

Environmental exposure controls: n. a.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

(a) **Appearance:** Coloured liquid.

(a) **Physical state:** Liquid.

(b) **Colour:** n. a.

(c) **Odour:** As solvent.

(c) **Odour threshold:**

(d) **Melting point:**

Freezing point:

(e) **Boiling point or initial boiling point and boiling range:** 82 °C (2-propanol)

(f) **Flammability:**

(g) **Lower and upper explosion limit:**

(h) **Flash point:** -7 °C

(i) **Auto-ignition temperature:**

(j) **Decomposition temperature:**

(k) **pH:**

(l) **Kinematic viscosity:**

(m) **Solubility:**

(n) **Partition coefficient n-octanol/water (log value):**

(o) **Vapour pressure:**

(p) **Density and/or relative density:** 0.7 – 1.1 g/cm³

(q) **Relative vapour density:**

(r) **Particle characteristics:**

(s) **Explosive properties:**

(t) Oxidising properties:

212: 55 % (Direttiva 2010/75/CE)

1027: < 20.5 mm²/s

9.2. Other information: n. a.

SECTION 10: Stability and reactivity

No decomposition if correctly used.

10.1. Reactivity: There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability: The material is stable in normal use and stocking conditions.

10.3. Possibility of hazardous reactions: Keep away from oxidants and strong acids.

10.4. Conditions to avoid: Keep away from ignition source, heat, direct light.

10.5. Incompatible materials: n. a.

10.6. Hazardous decomposition products: Combustion can produce carbon oxides, toxic gases and fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects: In the absence of experimental toxicological data on the mixture, the potential health risks of the product have been evaluated considering the properties of the different composing substances. The concentration of each dangerous substance mentioned in section 3 is thus considered in assessing the toxicological effects resulting from exposure to the product.

acute toxicity: Based on available data, classification criteria are not met

Isobutyl-alcohol

LD50/oral/rat > 2830 mg/kg

LD50/dermal/rabbit > 2000 mg/kg

LC50/inhalation/rat: about 24.6 mg/l (4h)

Heptane [and isomers]

LD50/oral/rat > 5000 mg/kg bw

LC50/inhalation/rat/4h > 73.5 mg/l

LD50/dermal/rabbit > 2000 mg/kg bw

Octane [and isomers]

LD50/oral/rat > 5000 mg/kg bw

LD50/dermal/rabbit > 2000 mg/kg bw

2-Propanol

LD50/oral/rat = 5840 mg/kg bw

LD50/dermal/rabbit = 16.4 ml/kg bw

LC50/inhalation/rat > 10000 ppm (6h)

irritation: It causes serious eye damage.

It causes skin irritation

Isobutyl-alcohol

It causes serious eye damage.

It causes skin irritation.

Irritating to respiratory system.

Octane [and isomers]

Skin irritation test on rabbit: irritating

Eye irritation test on rabbit: not irritating

2-Propanol

It causes serious eye irritation.

corrosivity: Based on available data, classification criteria are not met
 sensitisation: Based on available data, classification criteria are not met.
Heptane [and isomers]
 Guinea Pig Maximisation test (OECD 406): not sensitizing
Octane [and isomers]
 OECD406 test on Guinea pig: not sensitising
 repeated dose toxicity: **Isobutyl-alcohol**
 Subacute oral toxicity
 NOAEL/oral/rat > 1450 mg/kg bw day
 Subacute inhalatory toxicity
 NOAEL/inhalation/rat ≥ 7,5 mg/l
 carcinogenicity: **2-Propanol**
 NOAEC (carcinogenicity) : 5000 ppm (rat)
 mutagenicity: n. a.
 toxicity for reproduction: **2-Propanol**
 NOAEL (C): 480 mg/kg bw/day (rabbit)

Information on likely routes of exposure: n. a.

Symptoms related to the physical, chemical and toxicological characteristics: n. a.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: n. a.

Interactive effects: n. a.

11.2. Information on other hazards: The product does not contain substances having properties of interference with the endocrine system in a concentration > = 0.1%.

SECTION 12: Ecological information

Prevent contamination of soil and surface waters. Avoid dispersion of material into soil, drains or surface waters. Avoid dispersion of residues into drains.

12.1. Toxicity: **Isobutyl-alcohol**
 LC50/Pimephales promelas = 1430 mg/l (96h)
 EC50/Daphnia pulex = 1100 mg/l (48h)
 EC50/pseudokirchneriella subcapitata = 1799 mg/l (72h)

Octane [and isomers]
 NOELR/Oncorhynchus mykiss/28 d = 0.579 mg/l
 EL50/Mytilus edulis/105 min = 0.12 mg/l
 EC50/Mytilus edulis/105 min = 24.6 mg/kg
 EL50/pseudokirchneriella subcapitata/72h = 2084 mg/l

2-Propanol
 LC50 (Pimephales promelas) : 9640 mg/l (96h)
 EC50 (Daphnia magna): >10000 mg/l (24h)
 EC50 (Scenedesmus quadricauda) : 1800 mg/l (7d)

12.2. Persistence and degradability: **Isobutyl-alcohol**
 Biodegradation: 90% 14 d

Heptane [and isomers]
 LL50/Oncorhynchus Mykiss/96 h = 5378 mg/l
 NOEL/Oncorhynchus Mykiss/28 d = 1284 mg/l
 EC50/Daphnia magna/48h = 1.5 mg/l
 EL50/Daphnia magna/48 h = 3.9 mg/l
 EL50/Daphnia magna/21d = 1.6 mg/l (OECD 211)
 EL50/Tetrahymena pyriformis/48h = 22.6 mg/l
 EL50/Pseudokirchneriella subcapitata/72h = 4.3 mg/l

2-Propanol
 Easily biodegradable
 BOD = 53% (Regulation (EC) No 440/2008, Annex C.5)

12.3. Bioaccumulative potential: Isobutyl-alcohol

Partition coefficient: n-octanol/water = 1

Heptane [and isomers]

Log Kow = 3,78

BCF = 552 (calculated)

2-Propanol

Log Pow = 0.05

12.4. Mobility in soil: n. a.

12.5. Results of PBT and vPvB assessment: Based on available data, the product does not contain any PBT or vPvB substances in quantity higher than 0.1%.

12.6. Endocrine disrupting properties: The product does not contain substances having properties of interference with the endocrine system in a concentration > = 0.1%.

12.7. Other adverse effects: The product does not contain substances listed in Regulation 2024/590/UE (substances that deplete the ozone layer)

SECTION 13: Disposal considerations

13.1. Waste treatment methods: Incineration or disposal in accordance with legal regulations.

SECTION 14: Transport information

Transport only in accordance with ADR for road, RID for rail, IMDG for sea and ICAO for air transport.

14.1. UN number: 1210 - PRINTING INK, flammable (vapour pressure at 50 °C not more than 110 kPa)

14.2. UN proper shipping name: PRINTING INK

14.3. Transport hazard class(es): 3 - Flammable liquids

14.4. Packing group: II - Substances presenting medium danger

Classification Code (ADR 2.2): F1 - Flammable liquids having a flash-point of or below 60 °C

Mixed packing provisions (4.1.10): MP19 - May - in quantities not exceeding 5 litres per inner packaging - be packed together in a combination packaging conforming to 6.1.4.21:
- with goods of the same class covered by other classification codes or with goods of other classes, when mixed packing is also permitted for these; or
- with goods which are not subject to the requirements of ADR, provided they do not react dangerously with one another.

Transport category (1.1.3.6): 2

Hazard identification No. (5.3.2.3): 33 - highly flammable liquid (flash-point below 23 °C)

14.5. Environmental hazards: n. a.

Marine pollutant: Heptane [and isomers], Octane [and isomers]

14.6. Special precautions for user: n. a.

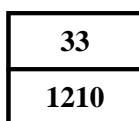
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

IMDG Page: 3272-1

IMDG EMS: F-E S-D

IMDG MFAG: 311

Danger labels:



SECTION 15: Regulatory information

Information contained in this SDS is based on the present state of our knowledge and on Regulation (EC) No 1907/2006 of the European Parliament and subsequent updates.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture: Restrictions related to the product or substances contained according to Annex XVII of Regulation (EC) 1907/2006 (REACH) and subsequent amendments:
Restrictions related to the product: 3, 40, 75

Directive 2012/18/EU: P5c, E1

WGK = 2

15.2. Chemical safety assessment: Not applicable

SECTION 16: Other information

Classification and procedure used:

| | | |
|------------|------|--------------------|
| Flam Liq 2 | H225 | calculation method |
| Eye Dam 1 | H318 | calculation method |
| Skin Irr 2 | H315 | calculation method |
| STOT SE 3 | H336 | calculation method |
| Aqua Ac 1 | H400 | calculation method |
| Aqua Chr 1 | H410 | calculation method |

Modified sections: 2,11,12,15,16

STIR ACCURATELY BEFORE USE

Full text of H phrases listed in Section 3:

| | |
|------|---|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Glossary / List of acronyms

(STOT) RE - Repeated Exposure

(STOT) SE - Single Exposure

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

DNEL - Derived No Effect Level

ECHA - European Chemicals Agency

EINECS - European Inventory of Existing Commercial Substances

GHS - Globally Harmonized System

IATA - International Air Transport Association

ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air

IMDG - International Maritime Dangerous Goods

Kow - octanol-water partition coefficient

PBT - Persistent, Bioaccumulative and Toxic substance

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS - Safety data sheet

STOT - Specific Target Organ Toxicity

SVHC - Substances of Very High Concern

UFI - Unique Formula Identifier

vPvB - Very Persistent and Very Bioaccumulative

Users' working conditions are beyond our knowledge and control. The product is not to be used for other purposes than those specified under section 1 without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation. The information in this SDS is meant as a description of the safety requirements of our product: it is not to be considered as a guarantee of the products' properties.

The information in this Safety Data Sheet is provided in accordance with the requirements of the Chemicals (Hazard Information and Packaging) regulations.