

Revision Date
May-29-2019

Revision Number
2.5

Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name Black
Product Category UV INK PRODUCT

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

Recommended uses Printing Operations

1.3 Details of the supplier of the safety data sheet

#16-20 Wertheim Crt. Richmond Hill,
ON L4B 3A8

Telephone: +1 905 482 3106
Fax: 905 482 3107

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

According to Regulation (EC) 1272/2008

Skin Corrosion/irritation	Category 1, Sub-category C – (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1A - (H317)
Reproductive toxicity	Category 1B - (H360FD)
Specific target organ toxicity (single exposure)	Category 3 - (H335)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Chronic aquatic toxicity	Category 2 - (H411)

2.2 Label Elements



Signal Word

Danger

Hazard Statements

H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation
H360FD May damage fertility. May damage the unborn child
H373 May cause damage to organs through prolonged or repeated exposure

H411 Toxic to aquatic life with long lasting effects

Precautionary Statements

P264 Wash face, hands and any exposed skin thoroughly after handling
 P280 Wear protective gloves/protective clothing/eye protection/face protection
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P363 Wash contaminated clothing before reuse
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention
 P202 Do not handle until all safety precautions have been read and understood
 P308 + P313 IF exposed or concerned: Get medical advice/attention
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed
 P314 Get medical advice/attention if you feel unwell
 P273 Avoid release to the environment

2.3 Other hazards

Other hazards Harmful to aquatic human life
 General Hazards No information available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Component	EC No.	CAS-No	Weight %	Classification According to Regulation (EC) No. 1272/2008 (CLP)	REACH No.	Note
2-Phenoxyethyl acrylate	256-360-6	48145-04-6	10 - 30	Skin Sens. 1A (H317) Repr. 2 (H361fd) Aquatic Chronic 2 (H411)	01-2119980532-35-xxxx	
4-(1,1-dimethylethyl)cyclohexyl acrylate	282-104-8	84100-23-2	10 - 30	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 2 (H411)	01-2120735441-62-xxxx	
Bisphenol A ethoxylate diacrylate		64401-02-1	10 - 30	Aquatic Chronic 2 (H411)	01-2119969511-34-xxxx	
N-vinylcaprolactam	218-787-6	2235-00-9	5 - 10	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Eye Irrit. 2A (H319) Skin Sens. 1B (H317) STOT RE 1 (H372) [liver, respiratory system]	01-2119977109-27-xxxx	
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	278-355-8	75980-60-8	5 - 10	Skin Sens. 1B (H317) Repr. 2 (H361f) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)	01-2119972295-29-xxxx	
Tetrahydrofurfuryl acrylate esters	219-268-7	2399-48-6	5 - 10	Acute Tox. 4 (H302) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Skin Sens. 1B (H317) Repr. 1B (H360Df)	01-2120738396-46-xxxx	

				Aquatic Chronic 2 (H411)		
Hexamethylene diacrylate (HDODA)	235-921-9	13048-33-4	5 - 10	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	01-2119484737-22-xxxx	
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-m orpholinyl)-	400-600-6	71868-10-5	1- 5	Acute Tox. 4 (H302) Repr. 1B (H360FD) Aquatic Chronic 2 (H411)	01-0000015054-80-xxxx	
Carbon black	215-609-9 435-640-3	1333-86-4	1- 5	Not Classified	01-2119384822-32-xxxx	1

Note:

REACH No. Registration number(s) may not be provided because substance(s) are exempted or not yet required to be registered under REACH

1. Substance with a Community workplace exposure limit

Full text of H- and EUH-phrases: see section 16**Section 4. FIRST AID MEASURES****4.1 Description of first aid measures**

General Advice

Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

None under normal use conditions.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician

Treat symptomatically

Section 5. FIRE FIGHTING MEASURES**5.1 Extinguishing Media****Suitable Extinguishing Media**Foam. Carbon dioxide (CO₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.**Unsuitable Extinguishing Media**

No information available

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions. Hazardous polymerization may take place during a fire due to heat. Closed containers could violently rupture.

5.3 Advice for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precaution, protective equipment and emergency procedures

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

6.4 Reference to other sections

See Section 12 for more information.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Keep at temperatures between 18°-32°C (65°-90°F). Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Protect from direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

7.3 Specific end use(s)

Exposure scenario

No information available

Risk Management Methods

The information required is contained in this Safety Data Sheet.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits

Component	The United Kingdom
Carbon black 1333-86-4	STEL: 7 mg/m ³ TWA: 3.5 mg/m ³

Component	France
Carbon black 1333-86-4	TWA/VME: 3.5 mg/m ³

Component Carbon black 1333-86-4	Spain TWA/VLA-ED: 3.5 mg/m ³
Component Carbon black 1333-86-4	Portugal TWA/VLE-MP: 3.5 mg/m ³
Component Carbon black 1333-86-4	Finland TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
Component Carbon black 1333-86-4	Denmark TWA: 3.5 mg/m ³
Component Carbon black 1333-86-4	Poland TWA/NDS: 4 mg/m ³ inhalable fraction
Component Carbon black 1333-86-4	Norway TWA: 3.5 mg/m ³
Component Carbon black 1333-86-4	Ireland TWA: 3 mg/m ³ inhalable fraction STEL: 15 mg/m ³ inhalable fraction
Component Carbon black 1333-86-4	Australia TWA TWA: 3 mg/m ³

Derived No Effect Level (DNEL)		
Component	DNEL – Dermal (workers)	DNEL – Inhalation (workers)
2-Phenoxyethyl acrylate 48145-04-6	1.5 mg/kg (Systemic long term)	10 mg/m ³ (Systemic long term) 77 mg/m ³ (Local long term)
4-(1,1-dimethylethyl)cyclohexyl acrylate 84100-23-2	0.5 mg/kg (Systemic long term)	1.8 mg/m ³ (Systemic long term)
Bisphenol A ethoxylate diacrylate 64401-02-1	2 mg/kg (Systemic long term)	3.52 mg/m ³ (Systemic long term)
N-vinylcaprolactam 2235-00-9	0.7 mg/kg (Systemic long term)	4.9 mg/m ³ (Systemic long term) 0.17 mg/m ³ (Local long term)
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	1.1 mg/kg (Systemic long term)	3.5 mg/m ³ (Systemic long term)
Tetrahydrofurfuryl acrylate esters 2399-48-6	4.9 mg/kg (Systemic long term)	1.73 mg/m ³ (Systemic long term)
Hexamethylene diacrylate (HDODA) 13048- 33-4	2.77 mg/kg (Systemic long term)	24.5 mg/m ³ (Systemic long term)
1-Propanone, 2-methyl-1-[4- (methylthio)phenyl]-2-(4-morpholinyl)- 71868-10-5	0.4 mg/kg (Systemic long term)	2.82 mg/m ³ (Systemic long term)
Carbon black 1333-86-4	No data found	2 mg/m ³ (Systemic long term) 2 mg/m ³ (Local long term)

8.2 Exposure controls Engineering Measures

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are

advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment

Eye/Face Protection

Wear safety glasses with side shields (or goggles). If splashes are likely to occur: Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye Protection

Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

Skin protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection

Chemical resistant protective gloves.

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Due to different glove types, the manufacturer's directions for use should be observed. Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

Environmental exposure controls

No information available

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Colored Liquid
Odor	Mild Sweet Acrylic	Odor Threshold	No information available
Property	Values	Remarks ♦ Method	
pH		No data available	
Melting Point/Freezing Point		No data available	
Boiling Point/Boiling Range	>149 °C / 300 °F		
Flash Point	>94 °C / >201 °F	Pensky Martens Closed Cup (PMCC)	
Evaporation Rate		No data available	
Flammability Limit in Air			
Upper flammability Limit		No data available	
Lower flammability Limit		No data available	
Vapor Pressure		No data available	

Vapor Density		No data available
Specific Gravity	1.06	
Water Solubility		No data available
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Auto-ignition Temperature		No data available
Decomposition Temperature		No data available
Kinematic Viscosity		No data available
Dynamic Viscosity		No data available
Explosive Properties	No data available	
Oxidizing Properties	No data available	

9.2 Other Information

Softening Point No data available

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions

None under normal processing. Do not store for longer periods at temperatures above 93°C (200°F).

10.4 Conditions to avoid

Temperatures above 93 °C / 200 °F. Protect from direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide.

Section 11. TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Specific test data for the substance or mixture is not available.
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown toxicity.

ATEmix (oral)	2,840.00 mg/kg
ATEmix (dermal)	12,284.00 mg/kg

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component	Oral LD50
2-Phenoxyethyl acrylate 48145-04-6	=4660µL/kg (Rat)
Hexamethylene diacrylate (HDODA) 13048-33-4	= 5 g/kg (Rat)
Carbon black 1333-86-4	> 15400 mg/kg (Rat)

Component	Oral LD50
Hexamethylene diacrylate (HDODA) 13048-33-4	= 3600 mg/kg (Rabbit)

Skin corrosion/irritation	Specific test data for the substance or mixture is not available. Causes severe burns. (based on components).
Eye damage/irritation	Specific test data for the substance or mixture is not available. Causes severe eye damage. (based on components).
Sensitization	Specific test data for the substance or mixture is not available. May cause an allergic skin reaction. (based on components).
Mutagenic Effects	Specific test data for the substance or mixture is not available.
Carcinogenic effects	Specific test data for the substance or mixture is not available.
Reproductive Effects	Specific test data for the substance or mixture is not available. May damage fertility. May damage the unborn child. (based on components).
CMR, categories 1 and 2	This product contains one or more substances which are classified in the EU as carcinogenic, mutagenic and/or reprotoxic

Component	CMR, categories 1 and 2
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	Repr. 2
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)- 71868-10-5	epr. 1B

STOT - single exposure	Specific test data for the substance or mixture is not available. May cause respiratory irritation. (based on components).
STOT - repeated exposure	Specific test data for the substance or mixture is not available. May cause damage to organs through prolonged or repeated exposure. (based on components).
Target Organ Effects	Liver, Respiratory system.
Aspiration hazard	Specific test data for the substance or mixture is not available.

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Specific test data for the substance or mixture is not available. Toxic to aquatic life with long lasting effects. (based on components).

Unknown Aquatic Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

12.2 Persistence and degradability

No information available

12.3 Bio accumulative potential

No information available

12.4 Mobility in Soil

No information available.

12.5 Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

No information available.

Section 13. DISPOSAL CONSIDERATIONS

13.1 Water treatment methods

Waste from residues/unused products	Contain and dispose of waste according to local regulations.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. TRANSPORT CONSIDERATIONS

Note:	This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.
ADR	Not Regulated Exception: If in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids these items may be shipped as not regulated [additional general packaging requirements must be met see ADR special provision 375]
ICAO / IATA / IMDG / IMO	Not Regulated Exception: If in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids these items may be shipped as not regulated [additional general packaging requirements must be met see ICAO/IATA special provision A197] Exception: If in quantities of 5L or less (per inner packaging) for liquids or 5KG or less (per inner packaging) for solids these items may be shipped as not regulated [additional general packaging requirements must be met see IMDG code 2.10.2.7]

Section 15. REGULATORY INFORMATION

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

European Union

International Inventories

For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor)

15.2 Chemical Safety Assessment

No information available.

Section 16. OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H360Df - May damage the unborn child. Suspected of damaging fertility
 H360FD - May damage fertility. May damage the unborn child
 H361f - Suspected of damaging fertility
 H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child
 H372 - Causes damage to organs through prolonged or repeated exposure
 H401 - Toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STL ((Short Term Exposure Limit)
Ceiling	Maximum Limit Value

Revision/Issue Date

May-29-2019

This safety data sheet complies with the requirement of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. The information relates only to the specific material designated and may not be valid for such material used on combination with any other materials or in any process, unless specified in the text.

End of Safety Date Sheet