

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/30/2022

Reviewed on 05/30/2022

1 Identification

- **Product identifier**
- **Trade name: 2C-Protection varnish for printing on Soft-Touch**
- **Article number: Series 140-7117/05**
- **Application of the substance / the mixture** Printing inks
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
DECO TEChnology Group Inc.
PRINTCOLOR SCREEN AG
TEL (714) 639-3326
FAX (714) 639-2261
- **Information department:** Product safety department
- **Emergency telephone number:** 800-535-5053

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 3 H226 Flammable liquid and vapor.



GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.



GHS07

Sensitization - Skin 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS02



GHS05



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

4-Hydroxybutanoic acid lactone
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700)

- **Hazard statements**

Flammable liquid and vapor.
Causes serious eye damage.
May cause an allergic skin reaction.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.

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Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves / eye protection / face protection.
 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 skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 In case of fire: Use CO2, powder or water spray to extinguish.
 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 = 3
 Fire = 2
 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3
 Fire = 2
 Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 108-94-1	cyclohexanone	25-50%
CAS: 112-07-2	2-butoxyethyl acetate	10-25%
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	≥3-<10%
CAS: 123-86-4	n-butyl acetate	≥1-≤2.5%
CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	≥0.1-<1%

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Seek medical treatment in case of complaints.

· **After skin contact:** 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.

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- **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.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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.
Keep away from ignition sources
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

CAS: 108-94-1	cyclohexanone	60 ppm
CAS: 112-07-2	2-butoxyethyl acetate	15 ppm
CAS: 9002-84-0	Polytetrafluoroethylene	12 mg/m ³
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	3.6 mg/m ³
CAS: 123-86-4	n-butyl acetate	5 ppm
CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	90 mg/m ³
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	50 ppm
CAS: 7664-38-2	phosphoric acid	3 mg/m ³

· **PAC-2:**

CAS: 108-94-1	cyclohexanone	830 ppm
CAS: 112-07-2	2-butoxyethyl acetate	35 ppm
CAS: 9002-84-0	Polytetrafluoroethylene	130 mg/m ³
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	39 mg/m ³
CAS: 123-86-4	n-butyl acetate	200 ppm
CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	990 mg/m ³
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
CAS: 7664-38-2	phosphoric acid	30 mg/m ³

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· PAC-3:		
CAS: 108-94-1	cyclohexanone	5000* ppm
CAS: 112-07-2	2-butoxyethyl acetate	210 ppm
CAS: 9002-84-0	Polytetrafluoroethylene	790 mg/m ³
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	310 mg/m ³
CAS: 123-86-4	n-butyl acetate	3000* ppm
CAS: 25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	5,900 mg/m ³
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
CAS: 7664-38-2	phosphoric acid	150 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **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.

CAS: 108-94-1 cyclohexanone	
PEL	Long-term value: 200 mg/m ³ , 50 ppm
REL	Long-term value: 100 mg/m ³ , 25 ppm Skin
TLV	Short-term value: 50 ppm Long-term value: 20 ppm Skin, BEI, A3
CAS: 112-07-2 2-butoxyethyl acetate	
REL	Long-term value: 33 mg/m ³ , 5 ppm
TLV	Long-term value: 20 ppm A3
CAS: 123-86-4 n-butyl acetate	
PEL	Long-term value: 710 mg/m ³ , 150 ppm
REL	Short-term value: 950 mg/m ³ , 200 ppm Long-term value: 710 mg/m ³ , 150 ppm
TLV	Short-term value: 150 ppm Long-term value: 50 ppm

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· **Ingredients with biological limit values:**

CAS: 108-94-1 cyclohexanone

BEI	80 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 1.2-Cyclohexanediol (with hydrolysis, nonspecific, nonquantitative)
	8 mg/L Medium: urine Time: end of shift Parameter: Cyclohexanol (with hydrolysis, nonspecific, nonquantitative)

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

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.

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Butyl rubber, BR

· **Eye protection:**



Goggles recommended during refilling.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Fluid

Color:

According to product specification

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· Odor:	Characteristic
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	140 °C (284 °F)
· Flash point:	44 °C (111.2 °F) (Abel Pensky)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	280 °C (536 °F)
· 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:	1.3 Vol %
Upper:	9.4 Vol %
· Vapor pressure at 20 °C (68 °F):	5 hPa (3.8 mm Hg)
· Density at 20 °C (68 °F):	≥1.22-1.24 g/cm ³ (≥10.18-10.35 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	2,500 mPas
Kinematic:	Not determined.
· Solvent separation test	
VOC content:	≥52.26-<53.31 % ≥650.4-661 g/l / ≥5.43-5.52 lb/gal
VOC (EC)	≥52.26-<53.31 %
· Other information	No further relevant information available.

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.

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11 Toxicological information

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

- **LD/LC50 values that are relevant for classification:**

CAS: 108-94-1 cyclohexanone

Oral	LD50	1,620 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)

- **Primary irritant effect:**
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **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)**

CAS: 108-94-1	cyclohexanone	3
CAS: 9002-84-0	Polytetrafluoroethylene	3
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **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.
- **Additional ecological information:**
- **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· DOT, IATA	UN1210
· ADR, IMDG	Void
· UN proper shipping name	
· DOT	Printing ink
· ADR, IMDG	Void
· IATA	PRINTING INK
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR	
· Class	Void Kein Gefahrgut <450l gemäss ADR 2.2.3.1.5
· ADN/R Class:	Void
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IATA	III
· ADR, IMDG	Void
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

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· **Section 313 (Specific toxic chemical listings):**

CAS: 112-07-2 | 2-butoxyethyl acetate

CAS: 7664-38-2 | phosphoric acid

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is 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.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 108-94-1 | cyclohexanone

A3

CAS: 112-07-2 | 2-butoxyethyl acetate

A3

· **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

· **Signal word** Danger

· **Hazard-determining components of labeling:**

4-Hydroxybutanoic acid lactone

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

· **Hazard statements**

Flammable liquid and vapor.

Causes serious eye damage.

May cause an allergic skin reaction.

· **Precautionary statements**

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves / eye protection / face protection.

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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 skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use CO₂, powder or water spray to extinguish.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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.

· **Department issuing SDS:** Product safety department

· **Contact:** hse@printcolor.ch

· **Date of preparation / last revision** 05/30/2022 / -

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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

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)

VOC: Volatile Organic Compounds (USA, EU)

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

Flammable Liquids 3: Flammable liquids – Category 3

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - Skin 1: Skin sensitisation – Category 1