Safety Data Sheet
acc. to OSHA HCS

Printing date 01/08/2019 Reviewed on 01/08/2019

1 Identification

· **Product identifier**

· **Trade name: ST-Varnish**

· **Article number: Series** 711-05

· **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

Flam. Liq. 3 H226 Flammable liquid and vapor.


GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

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


GHS02 GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**
4-Hydroxybutanoic acid lactone
· **Hazard statements**
Flammable liquid and vapor.
Causes serious eye damage.
· **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.
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.

(Contd. on page 2)

printcolor high performance inks

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/08/2019 Reviewed on 01/08/2019

Trade name: ST-Varnish

(Contd. of page 1)

Immediately call a poison center/doctor.
In case of fire: Use for extinction: CO2, powder or water spray.
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: 4435-53-4	3-methoxybutyl acetate	10-25%
CAS: 123-42-2	4-hydroxy-4-methylpentan-2-one	10-25%
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	2.5-10%
CAS: 64742-95-6	Solvent naphtha (petroleum), light arom.	2.5-10%
CAS: 1569-02-4	1-ethoxypropan-2-ol	2.5-10%
CAS: 54839-24-6	2-ethoxy-1-methylethyl acetate	1-2.5%

· **Additional information:**
Der Benzolgehalt als Verunreinigung im Solvent Naphtha ist <0.1%. Somit ist keine extra Etikettierung erforderlich.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, 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.

(Contd. on page 3)

printcolor high performance inks

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/08/2019 Reviewed on 01/08/2019

Trade name: ST-Varnish

(Contd. of page 2)

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:** Wear self-contained respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
CAS: 123-42-2	4-hydroxy-4-methylpentan-2-one	150 ppm
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	3.6 mg/m³
CAS: 107-98-2	1-methoxy-2-propanol	100 ppm
CAS: 7631-86-9	silicon dioxide, chemically prepared	18 mg/m³
CAS: 108-94-1	cyclohexanone	60 ppm
CAS: 123-86-4	n-butyl acetate	5 ppm
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	50 ppm
CAS: 120-51-4	Benzyl benzoate	5.7 mg/m³
CAS: 1344-28-1	aluminium oxide	15 mg/m³
CAS: 71-36-3	butan-1-ol	60 ppm
CAS: 124-68-5	2-amino-2-methylpropanol	17 mg/m³
CAS: 108-83-8	2,6-dimethylheptan-4-one	75 ppm
CAS: 91-20-3	naphthalene	15 ppm
CAS: 70657-70-4	2-methoxypropyl acetate	50 ppm

· **PAC-2:**		
CAS: 123-42-2	4-hydroxy-4-methylpentan-2-one	350 ppm
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	39 mg/m³
CAS: 107-98-2	1-methoxy-2-propanol	160 ppm
CAS: 7631-86-9	silicon dioxide, chemically prepared	740 mg/m³
CAS: 108-94-1	cyclohexanone	830 ppm
CAS: 123-86-4	n-butyl acetate	200 ppm
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	1,000 ppm
CAS: 120-51-4	Benzyl benzoate	63 mg/m³
CAS: 1344-28-1	aluminium oxide	170 mg/m³
CAS: 71-36-3	butan-1-ol	800 ppm
CAS: 124-68-5	2-amino-2-methylpropanol	190 mg/m³

(Contd. on page 4)

(Contd. of page 3)

CAS: 108-83-8	2,6-dimethylheptan-4-one	330 ppm
CAS: 91-20-3	naphthalene	83 ppm
CAS: 70657-70-4	2-methoxypropyl acetate	1,000 ppm

· **PAC-3:**

CAS: 123-42-2	4-hydroxy-4-methylpentan-2-one	2100* ppm
CAS: 96-48-0	4-Hydroxybutanoic acid lactone	310 mg/m³
CAS: 107-98-2	1-methoxy-2-propanol	660 ppm
CAS: 7631-86-9	silicon dioxide, chemically prepared	4,500 mg/m³
CAS: 108-94-1	cyclohexanone	5000* ppm
CAS: 123-86-4	n-butyl acetate	3000* ppm
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	5000* ppm
CAS: 120-51-4	Benzyl benzoate	380 mg/m³
CAS: 1344-28-1	aluminium oxide	990 mg/m³
CAS: 71-36-3	butan-1-ol	8000** ppm
CAS: 124-68-5	2-amino-2-methylpropanol	570 mg/m³
CAS: 108-83-8	2,6-dimethylheptan-4-one	2000* ppm
CAS: 91-20-3	naphthalene	500 ppm
CAS: 70657-70-4	2-methoxypropyl acetate	5,000 ppm

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:** No special measures required.

· **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.
· **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: 123-42-2 4-hydroxy-4-methylpentan-2-one	
PEL	Long-term value: 240 mg/m³, 50 ppm
REL	Long-term value: 240 mg/m³, 50 ppm
TLV	Long-term value: 238 mg/m³, 50 ppm
CAS: 1569-02-4 1-ethoxypropan-2-ol	
REL	Skin
TLV	Short-term value: NIC-850 mg/m³, NIC-200 ppm Long-term value: NIC-213 mg/m³, NIC-50 ppm NIC-Skin

(Contd. on page 5)

(Contd. of page 4)

· **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 eyes.
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:**

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:**	Characteristic
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	124 °C (255.2 °F)
· **Flash point:**	54 °C (129.2 °F) (Abel Pensky)
· **Ignition temperature:**	410 °C (770 °F)

(Contd. on page 6)

printcolor high performance inks

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/08/2019 Reviewed on 01/08/2019

Trade name: ST-Varnish

(Contd. of page 5)

· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	0.8 Vol %
Upper:	12.7 Vol %
· **Vapor pressure at 20 °C (68 °F):**	3 hPa (2.3 mm Hg)
· **Density at 20 °C (68 °F):**	1.07 g/cm³ (8.93 lbs/gal)
· **Solubility in / Miscibility with Water:**	Not miscible or difficult to mix.
· **Viscosity:**	
Dynamic at 20 °C (68 °F):	3800 mPas
VOC content:	20.9 % 218.9 g/l / 1.83 lb/gal
· **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.

11 Toxicological information

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

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

CAS: 64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	3,592 mg/kg (rat)
Dermal	LD50	3,160 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Irritating effect.
· **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)**

CAS: 96-48-0	4-Hydroxybutanoic acid lactone	3
CAS: 7631-86-9	silicon dioxide, chemically prepared	3
CAS: 108-94-1	cyclohexanone	3

(Contd. on page 7)

(Contd. of page 6)

CAS: 1330-20-7	xylene	3
CAS: 91-20-3	naphthalene	2B

· **NTP (National Toxicology Program)**

CAS: 91-20-3	naphthalene	R

· **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:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Harmful to aquatic organisms
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **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.

14 Transport information

· **UN-Number**	
· **DOT, IATA**	UN1210
· **ADR, ADN, IMDG**	Void
· **UN proper shipping name**	
· **DOT**	Printing ink related material
· **ADR, ADN, IMDG**	Void
· **IATA**	PRINTING INK

(Contd. on page 8)

(Contd. of page 7)

· **Transport hazard class(es)**

· **DOT**

· **Class**	3 Flammable liquids
· **Label**	3
· **ADR**	
· **Class**	Void Not restricted good <450l according to ADR 2.2.3.1.5 free
· **ADN/R Class:**	Void
· **IATA**	

· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, IATA**	III
· **ADR, IMDG**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Stowage Category**	A
· **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**
· **Sara**

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

None of the ingredient is listed.

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

CAS: 1344-28-1	aluminium oxide
CAS: 71-36-3	butan-1-ol
CAS: 91-20-3	naphthalene

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

CAS: 4435-53-4	3-methoxybutyl acetate
CAS: 623-84-7	propane-1,2-diyl diacetate
CAS: 123-42-2	4-hydroxy-4-methylpentan-2-one
CAS: 96-48-0	4-Hydroxybutanoic acid lactone
CAS: 107-98-2	1-methoxy-2-propanol

(Contd. on page 9)

(Contd. of page 8)

CAS: 27138-31-4	oxydipropyl dibenzoate
CAS: 7631-86-9	silicon dioxide, chemically prepared
CAS: 108-94-1	cyclohexanone
CAS: 61791-15-9	Kokosalkylamin mit EO, Acetat
CAS: 5131-66-8	3-butoxypropan-2-ol
CAS: 123-86-4	n-butyl acetate
CAS: 77-92-9	citric acid
CAS: 108-65-6	2-methoxy-1-methylethyl acetate
CAS: 61791-14-8	Cocosfettaminoxethylat
CAS: 120-51-4	Benzyl benzoate
CAS: 1344-28-1	aluminium oxide
CAS: 71-36-3	butan-1-ol
CAS: 124-68-5	2-amino-2-methylpropanol
CAS: 108-83-8	2,6-dimethylheptan-4-one
CAS: 91-20-3	naphthalene
CAS: 7732-18-5	water, distilled, conductivity or of similar purity

· **TSCA new (21st Century Act) (Substances not listed)**

CAS: 64742-95-6	Solvent naphtha (petroleum), light arom.
CAS: 1569-02-4	1-ethoxypropan-2-ol
CAS: 54839-24-6	2-ethoxy-1-methylethyl acetate

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 91-20-3	naphthalene

· **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.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

CAS: 71-36-3	butan-1-ol	D
CAS: 1330-20-7	xylene	I
CAS: 91-20-3	naphthalene	C, CBD

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

CAS: 108-94-1	cyclohexanone	A3
CAS: 1344-28-1	aluminium oxide	A4
CAS: 1330-20-7	xylene	A4
CAS: 91-20-3	naphthalene	A4

· **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).

(Contd. on page 10)

(Contd. of page 9)

· **Hazard pictograms**

GHS02 GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**
4-Hydroxybutanoic acid lactone
· **Hazard statements**
Flammable liquid and vapor.
Causes serious eye damage.
· **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.
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.
In case of fire: Use for extinction: CO2, powder or water spray.
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** 01/08/2019 / 1
· **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)
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

(Contd. on page 11)

printcolor high performance inks

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/08/2019 Reviewed on 01/08/2019

Trade name: ST-Varnish

(Contd. of page 10)

PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 3: Flammable liquids – Category 3
Eye Dam. 1: Serious eye damage/eye irritation – Category 1