Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Printing date 05/18/2021 Version: 1.0 Reviewed on 05/18/2021

* 1 Identification

Product identifier

Product name: Yellow UV LED Adherent Ink

Article number: 0C03xx

Details of the supplier of the safety data sheet
CET Color
4450 Commerce Dr. SW
Atlanta, GA 30336 - USA
1-404-228-1259

Manufacturer/Supplier:
CET Color
4450 Commerce Dr. SW
Atlanta, GA 30336
USA

Emergency telephone number: CHEMTREC 1-800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Acute Tox. 4	H302 Harmful if swallowed.
Skin Corr. 1C	H314 Causes severe skin burns and eye damage.
Eye Dam. 1	H318 Causes serious eye damage.
Skin Sens. 1	H317 May cause an allergic skin reaction.
Carc. 1A	H350 May cause cancer.
Repr. 1B	H360 May damage fertility or the unborn child.
STOT RE 1	H372 Causes damage to organs through prolonged or repeated exposure.

Label elements

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

Hazard pictograms

GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
4-(1-oxo-2-propenyl)-morpholine
Tetrahydrofurfuryl Acrylate
nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
2H-Azepin-2-one, 1-ethenylhexahydro-
3,3,5-Trimethylcyclohexyl acrylate
Isobournyl Acrylate
hexamethylene diacrylate
propylidynetrimethanol, propoxylated, esters with acrylic acid

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Product name: Yellow UV LED Adherent Ink

Neopentylglycol(PO)2 Diacrylate

Hazard statements

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

4.4 % of the mixture consists of component(s) of unknown toxicity.

3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

5117-12-4	4-(1-oxo-2-propenyl)-morpholine STOT RE 2, H373; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317	10 - 25%
86178-38-3	3,3,5-Trimethylcyclohexyl acrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1B, H317; STOT SE 3, H336	10 - 25%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide Repr. 2, H361	10 - 25%
5888-33-5	Isobournyl Acrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	2.5 - 10%
2235-00-9	2H-Azepin-2-one, 1-ethenylhexahydro- STOT RE 1, H372; Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Irrit. 2A, H319; Skin Sens. 1, H317	2.5 - 10%

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13048-33-4	hexamethylene diacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	2.5 - 10%
53879-54-2	propylidynetrimethanol, propoxylated, esters with acrylic acid Eye Irrit. 2A, H319; Skin Sens. 1, H317	2.5 - 10%
2399-48-6	Tetrahydrofurfuryl Acrylate Repr. 1B, H360; Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317; Flam. Liq. 4, H227	2.5 - 10%
84170-74-1	Neopentylglycol(PO)2 Diacrylate Skin Sens. 1, H317	≥ 2.5 - ≤ 10%
68511-62-6	nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes Carc. 1A, H350	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. Immediately call a 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: Use fire fighting measures that suit the environment.

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.

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

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).

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Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
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.

7 Handling and storage

Handling:
Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Information about protection against explosions and fires: Keep respiratory protective device available.

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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

13048-33-4 hexamethylene diacrylate

WEEL Long-term value: 1 mg/m³
DSEN
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.
Store protective clothing separately.
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.

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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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	Yellow
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.

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Product name: Yellow UV LED Adherent Ink

Evaporation rate Not determined.

Solubility in / Miscibility with
Water: Fully miscible.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:
Dynamic: Not determined.
Kinematic: Not determined.

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:

ATE (Acute Toxicity Estimate)

Oral LD50 < 887 mg/kg

Dermal LD50 > 8,639 mg/kg

5117-12-4 4-(1-oxo-2-propenyl)-morpholine

Oral LD50 500 mg/kg (ATE)

2235-00-9 2H-Azepin-2-one, 1-ethenylhexahydro-

Oral LD50 500 mg/kg (ATE)

Dermal LD50 1,100 mg/kg (ATE)

13048-33-4 hexamethylene diacrylate

Oral LD50 > 5,000 mg/kg (rat)

Dermal LD50 > 3,000 mg/kg (rab)

53879-54-2 propylidynetrimethanol, propoxylated, esters with acrylic acid

Oral LD50 > 2,000 mg/kg (rat)

2399-48-6 Tetrahydrofurfuryl Acrylate

Oral LD50 928 mg/kg (rat)

Primary irritant effect:
on the skin: Caustic effect on skin and mucous membranes.
on the eye: Strong caustic effect.
Sensitization: Sensitization possible through skin contact.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Corrosive

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Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes: 1

105-60-2 1,6-hexanolactam: 3

108-88-3 Toluene: 3

123-35-3 Myrcene: 2B

100-41-4 ethylbenzene: 2B

127-19-5 N,N-dimethylacetamide: 2B

NTP (National Toxicology Program)

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes: K

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: Toxic for fish

Additional ecological information:

General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

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.

Recommended cleansing agent: Water, if necessary with cleansing agents.

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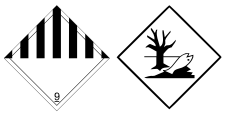
14 Transport information

UN-Number
DOT not regulated
IMDG, IATA UN3082
UN proper shipping name
DOT not regulated
IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tetrahydrofurfuryl Acrylate, 3,3,5-Trimethylcyclohexyl acrylate), MARINE POLLUTANT
IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tetrahydrofurfuryl Acrylate, 3,3,5-Trimethylcyclohexyl acrylate)
Transport hazard class(es)

DOT
Class not regulated

IMDG, IATA



Class 9 Miscellaneous dangerous substances and articles
Label 9
Packing group
DOT not regulated
IMDG, IATA III
Environmental hazards:
Marine pollutant: Symbol (fish and tree)
Special marking (IATA): Symbol (fish and tree)
Special precautions for user Warning: Miscellaneous dangerous substances and articles
Hazard identification number (Kemler code): 90
EMS Number: F-A,S-F
Stowage Category A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

IMDG
Limited quantities (LQ) 5L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation": UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAHYDROFURFURYL ACRYLATE, 3,3,5-TRIMETHYLCYCLOHEXYL ACRYLATE), 9, III

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15 Regulatory information

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

SARA

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes

TSCA (Toxic Substances Control Act):

5117-12-4 4-(1-oxo-2-propenyl)-morpholine: ACTIVE

86178-38-3 3,3,5-Trimethylcyclohexyl acrylate: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

5888-33-5 Isobournyl Acrylate: ACTIVE

2235-00-9 2H-Azepin-2-one, 1-ethenylhexahydro-: ACTIVE

13048-33-4 hexamethylene diacrylate: ACTIVE

53879-54-2 propylidynetrimethanol, propoxylated, esters with acrylic acid: ACTIVE

84170-74-1 Neopentylglycol(PO)2 Diacrylate: ACTIVE

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes: ACTIVE

Hazardous Air Pollutants

108-88-3 Toluene

100-41-4 ethylbenzene

Proposition 65

Chemicals known to cause cancer:

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes

123-35-3 Myrcene

100-41-4 ethylbenzene

127-19-5 N,N-dimethylacetamide

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes

127-19-5 N,N-dimethylacetamide

Chemicals known to cause developmental toxicity:

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes

108-88-3 Toluene

127-19-5 N,N-dimethylacetamide

Carcinogenic categories

EPA (Environmental Protection Agency)

108-88-3 Toluene: II

110-82-7 cyclohexane: I

100-41-4 ethylbenzene: D

TLV (Threshold Limit Value established by ACGIH)

105-60-2 1,6-hexanolactam: A5

108-88-3 Toluene: A4

100-41-4 ethylbenzene: A3

127-19-5 N,N-dimethylacetamide: A4

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NIOSH-Ca (National Institute for Occupational Safety and Health)

68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes

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

Hazard pictograms

GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
4-(1-oxo-2-propenyl)-morpholine
Tetrahydrofurfuryl Acrylate
nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
2H-Azepin-2-one, 1-ethenylhexahydro-
3,3,5-Trimethylcyclohexyl acrylate
Isobournyl Acrylate
hexamethylene diacrylate
propylidynetrimethanol, propoxylated, esters with acrylic acid
Neopentylglycol(PO)2 Diacrylate

Hazard statements
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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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.

Relevant phrases
H227 Combustible liquid.
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.
H336 May cause drowsiness or dizziness.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

Abbreviations and acronyms:
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)
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
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Repr. 1B: Reproductive toxicity – Category 1B
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

*** Data compared to the previous version altered.**