Safety Data Sheet

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

Date of issue: 08/07/2025 Version: 3.0 Reviewed on 08/07/2025

1 Identification

Product identifier

Product name: Yellow, UV-LED IR2 Ink

Other means of identification

Article number: I-7114

Application of the substance / the mixture: Printing inks

Details of the supplier of the safety data sheet

Direct Color Systems
99 Hammer Mill Rd.
Rocky Hill, CT 06067-USA

Manufacturer/Supplier:

Direct Color Systems
99 Hammer Mill Rd.
Rocky Hill, CT 06067-USA

Emergency telephone number US: 24/7 CHEMTREC 1-800-424-9300

Emergency telephone number International: 24/7 CHEMTREC +1 703-527-3887

* 2 Hazard(s) identification

Classification of the substance or mixture

Acute toxicity - oral 4	H302 Harmful if swallowed.
Sensitization - skin 1	H317 May cause an allergic skin reaction.
Carcinogenicity 1A	H350 May cause cancer.
Reproductive toxicity 1B	H360 May damage fertility or the unborn child.

Label elements

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

Hazard pictograms

GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Neopentylglycol(PO)2 Diacrylate
propylidynetrimethanol, ethoxylated, esters with acrylic acid
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements
Harmful if swallowed.
May cause an allergic skin reaction.
May cause cancer.

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May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray
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/hearing protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

4.7 % of the mixture consists of component(s) of unknown toxicity.

Classification according to (d)(1)(ii) of § 1910.1200

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

Hazards not otherwise classified

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

* 3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester Acute toxicity - oral 4, H302; Sensitization - skin 1, H317	≥ 50 - ≤ 100%
84170-74-1	Neopentylglycol(PO)2 Diacrylate Sensitization - skin 1, H317	≥ 2.5 - ≤ 10%
	Ethanol, 2-amino-, polymer with α-hydro-ω-[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) Skin irritation 2, H315; Eye irritation 2A, H319	≤ 2.5%
28961-43-5	propylidynetrimethanol, ethoxylated, esters with acrylic acid Eye irritation 2A, H319; Sensitization - skin 1, H317	≤ 2.5%
68511-62-6	nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes Carcinogenicity 1A, H350	≥ 0 - ≤ 2.5%
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide Sensitization - skin 1A, H317	≤ 2.5%
71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one Reproductive toxicity 1B, H360; Acute toxicity - oral 4, H302	≥ 0 - ≤ 2.5%
119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone Reproductive toxicity 1B, H360	≥ 0 - ≤ 2.5%

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75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide ≥ 0 - ≤ 2.5%
Reproductive toxicity 1B, H360; Sensitization - skin 1B, H317

4 First-aid measures

Description of first aid measures
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.
After swallowing: If symptoms persist consult 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 Not required.
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).
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

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.

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Further information about storage conditions: None.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Appropriate engineering controls No further data; see section 7.
Personal protective equipment:
General protective and hygienic measures:
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection: Goggles recommended during refilling.

*
9 Physical and chemical properties

Information on basic physical and chemical properties
General Information

Physical state	Liquid
Color:	Yellow
Odor:	Characteristic
Odor threshold:	Not determined.
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flammability:	Not applicable.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.

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Decomposition temperature:	Not determined.
pH-value:	Not determined.
Viscosity:	
Kinematic:	Not determined.
Dynamic:	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Vapor pressure:	Not determined.
Vapor pressure:	
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Particle characteristics	Not applicable.

Other information

Appearance:	
Form:	Liquid
Important information on protection of health and environment, and on safety.	
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Change in condition	
Evaporation rate	Not determined.

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 583 - 592 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Oral LD50 500 mg/kg (ATE)

Primary irritant effect:
on the skin: No irritant effect.
on the eye: No irritating effect.
Sensitization: Sensitization possible through skin contact.

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Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

Interactive effects No interactive effects between components are known.

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

119-61-9 benzophenone: 2B

108-88-3 Toluene: 3

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.

Alternative sources for toxicological information
No non-standard sources for toxicological information where used.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects
Remark: Harmful to fish
Additional ecological information:
General notes:
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.
Harmful to aquatic organisms

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.

14 Transport information

UN-Number
DOT, IMDG, IATA not regulated

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UN proper shipping name
DOT, IMDG, IATA not regulated
Transport hazard class(es)
DOT, ADN, IMDG, IATA
Class not regulated
Packing group
DOT, IMDG, IATA not regulated
Environmental hazards: Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
Special precautions for user Not applicable.
UN "Model Regulation": not regulated

* 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):
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.
86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester: ACTIVE
84170-74-1 Neopentylglycol(PO)2 Diacrylate: ACTIVE
28961-43-5 propylidynetrimethanol, ethoxylated, esters with acrylic acid: ACTIVE
68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes: ACTIVE
162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide: ACTIVE
71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACTIVE
119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone: ACTIVE
75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE
Hazardous Air Pollutants
67-56-1 methanol
108-88-3 Toluene
Proposition 65
Chemicals known to cause cancer:
68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
119-61-9 benzophenone
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
Chemicals known to cause developmental toxicity:
68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
67-56-1 methanol
108-88-3 Toluene

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Carcinogenic categories

EPA (Environmental Protection Agency)

108-88-3 Toluene: II

TLV (Threshold Limit Value)

108-88-3 Toluene: A4

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

GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
Neopentylglycol(PO)2 Diacrylate
propylidynetrimethanol, ethoxylated, esters with acrylic acid
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements
Harmful if swallowed.
May cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray
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/hearing protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
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.

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.

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Relevant phrases
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H350 May cause cancer.
H360 May damage fertility or the unborn child.

Date of previous version 07/07/2022
Version number of previous version: 2.0
Date of preparation 08/07/2025

Abbreviations and acronyms:
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)
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
Acute toxicity - oral 4: Acute toxicity – Category 4
Skin irritation 2: Skin corrosion/irritation – Category 2
Eye irritation 2A: Serious eye damage/eye irritation – Category 2A
Sensitization - skin 1: Skin sensitisation – Category 1
Sensitization - skin 1A: Skin sensitisation – Category 1A
Sensitization - skin 1B: Skin sensitisation – Category 1B
Carcinogenicity 1A: Carcinogenicity – Category 1A
Reproductive toxicity 1B: Reproductive toxicity – Category 1B

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