

**Safety Data Sheet**

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

Printing date 11/21/2023

Version: 2.0

Reviewed on 11/21/2023

**1 Identification****Product identifier****Product name:** Yellow, UV-LED IR2 Ink**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.  
Toxic to Reproduction 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-(ethenoxy)ethoxy]ethyl ester  
nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetriene complexes  
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one  
Neopentylglycol(PO)<sub>2</sub> Diacrylate  
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.

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## 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.

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).

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:

4.7 % 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:

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	≥ 50 - ≤ 100%
Acute Toxicity - Oral 4, H302; Sensitization - Skin 1, H317	
84170-74-1 Neopentylglycol(PO) <sub>2</sub> Diacrylate	≥ 2.5 - ≤ 10%
Sensitization - Skin 1, H317	
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)	≤ 2.5%
Skin Irritation 2, H315; Eye Irritation 2A, H319	
68511-62-6 nickel, 5,5'-azobis-2,4,6(1h,3h,5h)-pyrimidinetrione complexes	≥ 0 - ≤ 2.5%
Carcinogenicity 1A, H350	
162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	≤ 2.5%
Sensitization - Skin 1A, H317	
71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	≥ 0 - ≤ 2.5%
Toxic to Reproduction 1B, H360; Acute Toxicity - Oral 4, H302	
119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	≥ 0 - ≤ 2.5%
Toxic to Reproduction 1B, H360	
75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	≥ 0 - ≤ 2.5%
Toxic to Reproduction 2, H361	

## 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.

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**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.

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## 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.

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## 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.

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## 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:** None.**Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see section 7.

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## 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

### 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

##### Appearance:

<b>Form:</b>	Liquid
<b>Color:</b>	Yellow
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

**pH-value:** Not determined.

#### Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Decomposition temperature:** Not determined.

**Ignition temperature:** Product is not selfigniting.

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**Product name: Yellow, UV-LED IR2 Ink**

**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.

**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 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.

**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

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## 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.

## 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.

### Ecotoxicological 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

### 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.

## 14 Transport information

### UN-Number

**DOT, IMDG, IATA** not regulated

### UN proper shipping name

**DOT, IMDG, IATA** not regulated

### Transport hazard class(es)

**DOT, ADN, IMDG, IATA**

**Class** not regulated

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<b>DOT, IMDG, IATA</b>	not regulated
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	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)<sub>2</sub> Diacrylate: 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

**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

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**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  
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.  
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).  
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.

## 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

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.  
H361 Suspected of damaging fertility or the unborn child.

### Contact:

**Date of preparation / last revision** 11/21/2023

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**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  
Carcinogenicity 1A: Carcinogenicity – Category 1A  
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B  
Toxic to Reproduction 2: Reproductive toxicity – Category 2

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