

**Section 1: Identification of the Substance/Mixture and of the Company/Undertaking**

**1.1 Product identifier**

**Product Name** • DTX R.P.F.  
**Product Description** • Clear liquid

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Relevant identified use(s)** • Prototyping inkjet fluid

**1.3 Details of the supplier of the safety data sheet**

**Manufacturer** • IKONICS Corporation  
4832 Grand Ave.  
Duluth, MN 55807  
United States  
www.ikonics.com  
sds@ikonics.com  
**Telephone (General)** • (218) 628-2217  
**Telephone (General)** • (800) 328-4261 - Toll free

**1.4 Emergency telephone number**

**Chemtrec** • 1-800-424-9300 - Within USA and Canada  
• +1 703-527-3887 - Outside USA and Canada (collect calls accepted)

**Section 2: Hazards Identification**

**EU/EC**

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

**2.1 Classification of the substance or mixture**

**CLP** • Skin Irritation 2 - H315  
Skin Sensitization 1 - H317  
Eye Irritation 2 - H319  
EUH208

**2.2 Label Elements**

**CLP**

**WARNING**



**Hazard statements** • H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
EUH208 – Contains sensitizing substances (aromatic acrylate; Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)). May produce an allergic reaction

**Precautionary statements**

- Prevention** • P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.  
P264 - Wash thoroughly after handling.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

- Response** • P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P321 - Specific treatment, see supplemental first aid information.

- Storage/Disposal** • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other Hazards

- CLP • No data available

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## UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Eighth Revised Edition

### 2.1 Classification of the substance or mixture

- UN GHS • Skin Irritation 2 - H315  
Skin Sensitization 1 - H317  
Eye Irritation 2 - H319

### 2.2 Label elements

UN GHS

#### WARNING



- Hazard statements** • H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation

#### Precautionary statements

- Prevention** • P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.  
P264 - Wash thoroughly after handling.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P321 - Specific treatment, see supplemental first aid information.

- Storage/Disposal** • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

### 2.3 Other hazards

- UN GHS • No data available

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## United States (US)

According to OSHA 29 CFR 1910.1200 HCS

## 2.1 Classification of the substance or mixture

- OSHA HCS 2012
- Skin Irritation 2 - H315
  - Skin Sensitization 1 - H317
  - Eye Irritation 2 - H319

## 2.2 Label elements

OSHA HCS 2012

### WARNING



- Hazard statements**
- Causes skin irritation - H315
  - May cause an allergic skin reaction - H317
  - Causes serious eye irritation - H319

### Precautionary statements

- Prevention**
- Avoid breathing dust, fume, gas, mist, vapors and/or spray. - P261
  - Wash thoroughly after handling. - P264
  - Contaminated work clothing should not be allowed out of the workplace. - P272
  - Wear protective gloves/protective clothing/eye protection/face protection. - P280
- Response**
- IF ON SKIN: Wash with plenty of soap and water. - P302+P352
  - If skin irritation or rash occurs: Get medical advice/attention. - P333+P313
  - Take off contaminated clothing and wash before reuse. - P362
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
  - If eye irritation persists: Get medical advice/attention. - P337+P313
  - Specific treatment, see supplemental first aid information. - P321

- Storage/Disposal**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

## 2.3 Other hazards

- OSHA HCS 2012
- No data available

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## Canada

According to WHMIS 2015

## 2.1 Classification of the substance or mixture

- WHMIS 2015
- Skin Irritation 2 - H315
  - Skin Sensitization 1 - H317
  - Eye Irritation 2 - H319

## 2.2 Label elements

WHMIS 2015

### WARNING



- Hazard statements**
- Causes skin irritation - H315
  - May cause an allergic skin reaction - H317
  - Causes serious eye irritation - H319

### Precautionary statements

- Prevention**
- Avoid breathing dust, fume, gas, mist, vapors and/or spray. - P261
  - Wash thoroughly after handling. - P264
  - Contaminated work clothing should not be allowed out of the workplace. - P272
  - Wear protective gloves/protective clothing/eye protection/face protection. - P280

- Response**
- IF ON SKIN: Wash with plenty of soap and water. - P302+P352
  - If skin irritation or rash occurs: Get medical advice/attention. - P333+P313
  - Take off contaminated clothing and wash before reuse. - P362
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
  - If eye irritation persists: Get medical advice/attention. - P337+P313
  - Specific treatment, see supplemental first aid information. - P321

**Storage/Disposal**

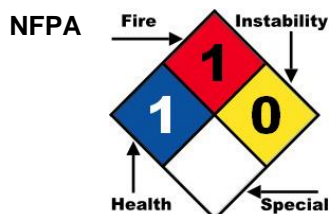
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

## 2.3 Other hazards

WHMIS 2015

- No data available

## 2.4 Other information



See Section 12 for Ecological Information.

## Section 3 - Composition/Information on Ingredients

### 3.1 Substances

### 3.2 Mixtures

Composition				
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive
aromatic acrylate	NDA	80% TO 90%		<b>GHS / CLP / OSHA / WHMIS:</b> Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1
Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)	<b>CAS:</b> 162881-26-7 <b>EC Number:</b> 423-340-5 <b>EU Index:</b> 015-189-00-5	1% TO 3%		<b>GHS / CLP:</b> Aquatic Chronic 3; Skin Sens. 1 <b>OSHA / WHMIS:</b> Skin Sens. 1

See Section 11 for Toxicological Information.

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

- Inhalation**
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration and call 911 or emergency medical service.
- Skin**
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth. Never give anything by mouth to an unconscious person. If large quantities are swallowed, call a physician immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

### 4.3 Indication of any immediate medical attention and special treatment needed

## Section 5 - Firefighting Measures

### 5.1 Extinguishing media

**Suitable Extinguishing Media** • SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
LARGE FIRE: Water spray, fog or regular foam.

**Unsuitable Extinguishing Media** • No data available

**Firefighting Procedures** • LARGE FIRES: Use extinguishing agent suitable for type of surrounding fire.  
Fire fighters should wear complete protective clothing including self-contained breathing apparatus.  
Keep unauthorized personnel away.  
Ventilate closed spaces before entering.

### 5.2 Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards** • Material may burn, but does not ignite readily.

**Hazardous Combustion Products** • Products of combustion include: carbon oxides (CO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>).

### 5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.  
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.  
Wear positive pressure self-contained breathing apparatus (SCBA).

## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal Precautions** • Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas.

**Emergency Procedures** • No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended. Use normal clean up procedures.

### 6.2 Environmental precautions

- LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.

### 6.3 Methods and material for containment and cleaning up

**Containment/Clean-up Measures** • Use appropriate Personal Protective Equipment (PPE)  
Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container.

### 6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

**Handling** • Use good safety and industrial hygiene practices.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage** • Keep container closed when not in use. Store away from extreme heat. Do not freeze. Store material in its original packaging to prevent UV exposure.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Engineering

- Local exhaust is recommended but not required. Provide adequate ventilation as necessary.

#### Measures/Controls

#### Personal Protective Equipment

#### Pictograms



#### Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

#### Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

#### Hands

- Wear protective gloves - rubber or neoprene.

#### Skin/Body

- Wear protective clothing - apron or other impervious body coverings.

#### General Industrial Hygiene Considerations

- Handle in accordance with good industrial hygiene and safety practice.

#### Environmental Exposure Controls

- No data available

## Section 9 - Physical and Chemical Properties

### 9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Color	Colorless
Odor	Mild	Odor Threshold	No data available
Physical and Chemical Properties	UV reactive.		
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	1.012 Water=1	Water Solubility	Insoluble
Viscosity	80-85 Centipoise (cPs, cP) or mPas	Explosive Properties	Not relevant
Oxidizing Properties:	Not relevant		
Volatility			
Vapor Pressure	Not relevant	Vapor Density	Not relevant
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not relevant		
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

### 9.2 Other Information

- Polymerizes to solid/semisolid form upon exposure to UV radiation.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

- UV reactive.

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

- Avoid freezing. Excess heat. Strong light.

### 10.5 Incompatible materials

- No data available

### 10.6 Hazardous decomposition products

- No decomposition is expected under normal storage and use conditions. Hazardous decomposition products formed under fire conditions - carbon oxides (COx), nitrogen oxides (NOx).

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

GHS Properties	Classification
Skin corrosion/Irritation	UN GHS•Skin Irritation 2 EU CLP•Skin Irritation 2 OSHA HCS 2012•Skin Irritation 2 WHMIS 2015•Skin Irritation 2
Skin sensitization	UN GHS•Skin Sensitizer 1 EU CLP•Skin Sensitizer 1 OSHA HCS 2012•Skin Sensitizer 1 WHMIS 2015•Skin Sensitizer 1
Serious eye damage/Irritation	UN GHS•Eye Irritation 2A EU CLP•Eye Irritation 2 OSHA HCS 2012•Eye Irritation 2 WHMIS 2015•Eye Irritation 2

**Route(s) of entry/exposure** • Skin, Eye

#### Potential Health Effects

##### Inhalation

**Acute (Immediate)**

- May cause irritation.

**Chronic (Delayed)**

- Repeated and prolonged exposure may cause irritation.

##### Skin

**Acute (Immediate)**

- Causes skin irritation. May cause an allergic skin reaction.

**Chronic (Delayed)**

- Repeated and prolonged exposure may cause sensitization.

##### Eye

**Acute (Immediate)**

- Causes serious eye irritation.

**Chronic (Delayed)**

- Repeated and prolonged exposure may be harmful.

##### Ingestion

**Acute (Immediate)**

- May cause irritation.

**Chronic (Delayed)**

- No specific information available.

## Section 12 - Ecological Information

### 12.1 Toxicity

- No data available

### 12.2 Persistence and degradability

- No data available

### 12.3 Bioaccumulative potential

- No data available

### 12.4 Mobility in Soil

- No data available

### 12.5 Results of PBT and vPvB assessment

- No data available

### 12.6 Other adverse effects

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

**Product waste** • Dispose of content in accordance with local, regional, national, and/or international regulations.

**Packaging waste** • Dispose of container in accordance with local, regional, national, and/or international regulations.

### 13.2 Other Information

- Dispose of wastes in an approved waste disposal facility.

## Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	NDA	NDA	NDA	NDA
IMO/IMDG	NDA	NDA	NDA	NDA	NDA
IATA/ICAO	NDA	NDA	NDA	NDA	NDA

### 14.6 Special precautions for user

- None specified.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

### 14.8 Other information

DOT • Not regulated.

IMO/IMDG • Not regulated.

IATA/ICAO • Not regulated.

## Section 15 - Regulatory Information

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

**SARA Hazard Classifications** • Acute

Inventory						
Component	CAS	Australia AICS	Canada DSL	Canada NDSL	China	EU EINECS
Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)	162881-26-7	Yes	Yes	No	Yes	No



Inventory (Con't.)						
Component	CAS	EU ELNICS	Japan ENCS	Korea KECL	New Zealand	Philippines PICCS
Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)	162881-26-7	Yes	Yes	Yes	Yes	Yes

Inventory (Con't.)			
Component	CAS	Switzerland SWISS	TSCA
Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)	162881-26-7	Yes	Yes

## Germany

### Environment

#### Germany - Water Classification (VwVwS) - Annex 3

•Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)

162881-26-7

ID Number 2126, hazard class 1 - low hazard to waters

## Korea

### Labor

#### Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances

•Phosphine oxide, phenylbis (2,4,6-trimethyl benzoyl)

162881-26-7

## 15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## 15.3 Other Information

- California Proposition 65 – WARNING: This product can expose you to a chemical known to the State of California to cause birth defects or other reproductive harm:  
Toluene CAS #108-88-3 <0.04%

## Section 16 - Other Information

### Relevant Phrases (code & full text)

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- EUH208 – Contains sensitizing substance(s). May produce an allergic reaction.
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
- P264 - Wash thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 - Specific treatment, see supplemental first aid information.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

### Classification method for mixtures

- Calculation method.

### Last Revision Date

- 23 October 2014

### Preparation Date

- 04 March 2022

### Other Information

- Approved by: Troy Bergstedt, Director of Chemical Research, (218) 628-2217 ext.142.

### Disclaimer/Statement of Liability

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