

## SAFETY DATA SHEET

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### 1. IDENTIFICATION

**Product Name:** ADDITOL® DX radiation curing resins  
**Synonyms:** None  
**Product Description:** Mixture of photoinitiators  
**Molecular Formula:** Mixture  
**Molecular Weight:** Mixture  
**Intended/Recommended Use:** Photoinitiator

Allnex USA Inc., 9005 Westside Parkway, Alpharetta, Georgia 30009, USA

**For Product and all Non-Emergency Information call** your local Allnex contact point or contact us at <http://www.allnex.com/contact>

**EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:**

+1-866-928-0789 (toll free) or +1-215-207-0061 (Carechem 24 - Allnex29003-NCEC)

See Section 16 for Emergency phone numbers for other regions.

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Specific Target Organ Toxicity - Repeated Exposure Hazard Category 2

Aquatic Environment Acute Hazard Category 2

Aquatic Environment Chronic Hazard Category 2

#### LABEL ELEMENTS



#### Signal Word

WARNING

#### Hazard Statements

May cause damage to organs through prolonged or repeated exposure

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

#### Precautionary Statements

Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid release to the environment.

Get medical advice/attention if you feel unwell.

Dispose of contents/container in accordance with local and national regulations.

### Hazards Not Otherwise Classified (HNOC), Other Hazards

Not applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### HAZARDOUS INGREDIENTS

Component / CAS No.	%	GHS Classification	Carcinogen
Benzophenone 119-61-9	20 - 30	STOT RE 2 (H373) Skin Irrit. 3 (H316) Eye Irrit. 2B (H320) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)	IARC 2B
Substituted aromatic ketone -	15 - 20	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-
Aromatic ketones -	10 - 15	Acute Tox. 4 (H302) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)	-

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

Additional GHS classification or other information may be included in this section but has not been adopted by OSHA. See Section 16 for full text of H phrases.

## 4. FIRST AID MEASURES

### First-aid Measures

#### Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

#### Skin Contact:

Wash immediately with plenty of water and soap.

#### Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes.

#### Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

### Most Important Symptoms and Effects, Acute and Delayed

None known.

### Immediate Medical Attention and Special Treatment

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

#### Notes To Physician:

No specific measures have been identified.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:**

Use water spray or fog, carbon dioxide or dry chemical.

**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus. See SDS Section 8 (Exposure Controls/Personal Protection).

**Special Hazards:**

Keep containers cool by spraying with water if exposed to fire.

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

**Methods For Cleaning Up:**

Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

**Environmental Precautions:**

Use appropriate containment to avoid environmental contamination. Avoid release to the environment.

**References to other sections:**

See Sections 7, 8 and 13 for additional information.

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## 7. HANDLING AND STORAGE

**HANDLING**

**Precautions:** Avoid release to the environment. Wash hands thoroughly after handling. Do not breathe vapors or spray mist.

**Special Handling Statements:** Avoid direct sunlight, heat sources and sparks.

**STORAGE**

Store in a cool, dry, well ventilated place and keep container tightly closed.

**Storage Temperature:** Room temperature

**Reason:** Quality.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:**

Engineering controls are not usually necessary if good hygiene practices are followed.

**Respiratory Protection:**

For operations where inhalation exposure can occur use an approved respirator. Recommendations are listed below. Other protective respiratory equipment may be used based on user's own risk assessment. Recommended respirators include those certified by NIOSH.

**Recommended:**

Full Face Mask with organic vapor cartridge, Type A filter (BP >65°C)

**Eye Protection:**

Wear eye/face protection such as chemical splash proof goggles or face shield.

**Skin Protection:**

Avoid skin contact. Wear impermeable gloves.

**Hand Protection:**

Wear protective gloves. Recommendations are listed below. Other protective materials may be used based on user's own risk assessment. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred. Replace gloves immediately when torn or any change in appearance (dimension, color, flexibility etc.) is noticed.

Gloves for repeated or prolonged exposure - non exhaustive list:

Nitrile rubber (NBR), thickness: > 0.56 mm, break through time: up to 480 min

Gloves for short term exposure/splash protection - non exhaustive list:

Nitrile rubber (NBR), thickness: 0.1 mm, break through time: up to 30 min

The chemical resistance depends on the type of product and amount of product on the glove. Therefore gloves need to be changed when in contact with chemicals.

Not suitable gloves - non exhaustive list:

Latex gloves

Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing. Use PE gloves as under gloves for difficult situations like for instance: high exposure, unknown composition or unknown properties of the chemicals.

**Additional Advice:**

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

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**Exposure Limit(s)**

No values have been established.

**Biological Exposure Limit(s)**

No values have been established.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Color:</b>	color varies
<b>Appearance:</b>	liquid
<b>Odor:</b>	ester acrylate
<b>Boiling Point:</b>	Not available
<b>Melting Point:</b>	Not available
<b>Vapor Pressure:</b>	Not available
<b>Specific Gravity/Density:</b>	1.10 g/cm <sup>3</sup>
<b>Vapor Density:</b>	Not available
<b>Percent Volatile (% by wt.):</b>	Not available
<b>pH:</b>	Not available
<b>Saturation In Air (% By Vol.):</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>Solubility In Water:</b>	slightly soluble
<b>Volatile Organic Content:</b>	Not available

<b>Flash Point:</b>	> 100 °C Setaflash Closed Cup
<b>Flammable Limits (% By Vol):</b>	Not applicable
<b>Autoignition Temperature:</b>	Not available
<b>Decomposition Temperature:</b>	Not available
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>Odor Threshold:</b>	Not available
<b>Viscosity (Kinematic):</b>	Not available
<b>Viscosity (Dynamic):</b>	55 - 85 mPa.s @ 25 °C Low viscous liquid
<b>Explosive Properties:</b>	Not applicable
<b>Oxidizing Properties:</b>	No

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## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available
<b>Stability:</b>	Stable.
<b>Conditions To Avoid:</b>	Avoid direct exposure to sunlight. Elevated temperatures.
<b>Polymerization:</b>	Will not occur
<b>Materials To Avoid:</b>	Avoid contact with oxidizing agents. Hazardous polymerization does not occur. Reactions on exposure to sunlight and/or heating.
<b>Hazardous Decomposition Products:</b>	Carbon dioxide Carbon monoxide (CO)

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## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Skin, Eyes, Oral.

**Acute toxicity - oral:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Acute toxicity - dermal:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Acute toxicity - inhalation:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Skin corrosion / irritation:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Serious eye damage / eye irritation:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Respiratory sensitization:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Skin sensitization:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Carcinogenicity:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Germ cell mutagenicity:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Reproductive toxicity:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

**Specific target organ toxicity (STOT) - single exposure:** Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

**Specific target organ toxicity (STOT) - repeated exposure:** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

## PRODUCT TOXICITY INFORMATION

### ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)

### LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Not irritating
Acute Irritation	eye	Not irritating

### ALLERGIC SENSITIZATION

Sensitization	Skin	Not sensitizing
Sensitization	respiratory	No data

### GENOTOXICITY

#### Assays for Gene Mutations

Ames Salmonella Assay	No data
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### OTHER INFORMATION

The product toxicity information above has been estimated.

The toxicological properties of this material have not been fully determined.

Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms such as redness, blistering, dermatitis, etc.

The inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

## 11. TOXICOLOGICAL INFORMATION

### HAZARDOUS INGREDIENT TOXICITY DATA

Benzophenone has an acute oral (rat), acute oral (mouse) and acute dermal (rabbit) toxicity LD50 values of > 10000, 2895 and 3535 mg/kg respectively. Benzophenone is not expected to give severe eye and skin irritation, but sensitization was observed in the guinea pig maximization test. The AMES test was negative as well as other genotoxic tests (both in vivo and in vitro). Prolonged exposure may lead damage at the liver liver and the haematological system. Tumour formation cannot be excluded. Mild developmental delays with a high probability of recovery during early postnatal development was observed in prenatal toxicity studies.

Aromatic ketones have acute oral (rat) LD50 and acute dermal (rat) LD50 values of 1,376 mg/kg and 6,930 mg/kg, respectively. This material was not irritating for acute dermal and eye irritation (rabbits). Acute skin sensitization- Was not sensitizing (Guinea pig).



**WARNING:** Cancer – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## 12. ECOLOGICAL INFORMATION

## TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

**Overall Environmental Toxicity:** Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

The ecological assessment for this material is based on an evaluation of its components.

### RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

### HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Fish
Benzophenone (119-61-9)	LC50 = 15.3 mg/L - Pimephales promelas (96hrs) NOEC = 1.5 - 3.9 mg/L - fish (calculated)
Substituted aromatic ketone (-)	Not available
Aromatic ketones (-)	Not available

Component / CAS No.	Toxicity to Water Flea
Benzophenone (119-61-9)	EC50 = 6.78 mg/L - Daphnia magna (48hrs) mobility NOEC = 4.47 mg/L - Daphnia magna (48hrs) mobility EC50 = 1.1 mg/L - Daphnia magna (21d) reproduction NOEC = 0.2 mg/L - Daphnia magna (21d) reproduction
Substituted aromatic ketone (-)	Not available
Aromatic ketones (-)	Not available

Component / CAS No.	Toxicity to Algae
Benzophenone (119-61-9)	EC50 = 3.5 mg/L - Pseudokirchnerella subcapitata (72hrs) NOEC = 1 mg/L - Pseudokirchnerella subcapitata (72hrs)
Substituted aromatic ketone (-)	Not available
Aromatic ketones (-)	Not available

Component / CAS No.	Partition coefficient
Benzophenone (119-61-9)	3.2
Substituted aromatic ketone (-)	Not available
Aromatic ketones (-)	Not available

## 13. DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as supplied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the

guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this SDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristics: There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, see Section 9 of this SDS (flash point). For Corrosivity, see Sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 3 (composition). Federal regulations are subject to change. State and local requirements, which may differ from or be more stringent than the federal regulations, may also apply to the classification of the material if it is to be disposed. The Company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The Company recommends that organic materials classified as RCRA hazardous wastes be disposed of by thermal treatment or incineration at EPA approved facilities. The Company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

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## 14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

### US DOT

Dangerous Goods? X

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazard Class: 9

Packing Group: III

UN/ID Number: UN3082

Transport Label Required:       Miscellaneous  
                                          Marine Pollutant

Marine Pollutant

TECHNICAL NAME (N.O.S.): AROMATIC KETONES

Comments:                               Marine Pollutants - DOT requirements specific to Marine Pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars or aircraft.

### TRANSPORT CANADA

Dangerous Goods? X

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazard Class: 9

Packing Group: III

UN Number: UN3082

Transport Label Required:       Miscellaneous  
                                          Marine Pollutant

Marine Pollutant

TECHNICAL NAME (N.O.S.): AROMATIC KETONES

### ICAO / IATA

Dangerous Goods? X

UN PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport Hazard Class: 9

Packing Group: III

UN Number: UN3082

Transport Label Required:       Miscellaneous

TECHNICAL NAME (N.O.S.): AROMATIC KETONES



**IMO**

Dangerous Goods? X

UN PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport Hazard Class: 9

UN Number: UN3082

Packing Group: III

Transport Label Required: Miscellaneous  
Marine Pollutant

Marine Pollutant

TECHNICAL NAME (N.O.S.): AROMATIC KETONES

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**15. REGULATORY INFORMATION****Inventory Information****United States (USA):** All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

This product contains a chemical substance that is subject to export notification under Section 12 (b) of the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq. (This requirement applies to exports from the United States only.)

**Canada:** All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.**Australia:** All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.**New Zealand:** This product is approved or exempt under the Hazardous Substances and New Organisms (HSNO) Act.**China:** All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.**Japan:** One or more components of this product are NOT included on the Japanese (ENCS and/or ISHL) inventories.**Korea:** All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.**Philippines:** All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.**Taiwan:** All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).**OTHER ENVIRONMENTAL INFORMATION**

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

Component / CAS No.	%	TPQ (lbs)	RQ(lbs)	S313	TSCA 12B
Benzophenone 119-61-9	20 - 30	None	0	No	Yes

**PRODUCT HAZARD CATEGORY UNDER SECTIONS 311 AND 312 OF EPCRA****Physical Hazards**

Not applicable

**Health Hazards**

Specific target organ toxicity (single or repeated exposure)

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**16. OTHER INFORMATION****NFPA Hazard Rating (National Fire Protection Association)**

Health: 1 - Materials that, under emergency conditions, can cause significant irritation.

Fire: 1 - Materials that must be preheated before ignition can occur.

Instability: 1 - Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures.

**Reasons For Issue:** Revised Section 11**Date Prepared:** 08/25/2018**Date of last significant revision:** 03/16/2016**Component - Hazard Statements**

Benzophenone

H316 - Causes mild skin irritation.

H320 - Causes eye irritation.

H373 - May cause damage to organs through prolonged or repeated exposure.

H401 - Toxic to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

Substituted aromatic ketone

H400 - Very toxic to aquatic life.

H410 - Very toxic to aquatic life with long lasting effects.

Aromatic ketones

H302 - Harmful if swallowed.

H401 - Toxic to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

**Emergency phone numbers for other regions****Asia Pacific**

Australia: +61 1800 022 037 (Allnex Australia)

China (PRC): +86(0)25 8547 7110 (Jiangsu registration center) / +86(0)532 8388 9090 (NRCC)

India: 000 800 100 7479 (toll free) or +65 3158 1198 (Carechem 24)

Indonesia: 007 803 011 0293 (Carechem 24)

Japan: +81 345 789 341 (Carechem 24)

Korea: +82 2 3479 8401 (Carechem 24)

Malaysia: +60 3 6207 4347 (Carechem 24)

New Zealand: +64 0800 803 002 (Allnex New Zealand)

Philippines: +63 2 231 2149 (Carechem 24)

Taiwan: +886 2 8793 3212 (Carechem 24)

Vietnam: +84 8 4458 2388 (Carechem 24)

All Others: +65 3158 1074 (Carechem 24)

**Europe**

+44 (0) 1235 239 670 (Carechem 24)

**Middle East, Africa**

+44 (0) 1235 239 671 (Carechem 24)

**Latin America**

Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)

Chile: +56 2 2582 9336 (Carechem 24)

Mexico and all others: +52-555-004-8763 (Carechem 24)

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Prepared By: Product Stewardship & Regulatory Affairs Department, <http://www.allnex.com/contact>

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