

Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

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5-Oct-09

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Trade Name: **Returned Clean-A-Part Solution**

Chemical Family: Organic mixture

Product Use: For use with film transfer imaging (FTI) systems.

Hazardous Materials Identification System (HMIS):

(Degree of hazard: 0 = low, 4 = extreme):

Health	2
Flammability	1
Physical Hazards	1

Personal Protection:

Skin, eye protection

Manufacturer:



Manufacturer Contact	3D Systems Corporation 333 Three D Systems Circle Rock Hill, SC 29730 U.S.A.
For Information	Phone: 803.326.3900
Emergency	800.424.9300 - Chemtrec

2. HAZARDS IDENTIFICATION

Emergency Overview

Signal Word:	Warning!
Physical Form	Liquid
Color:	Clear to Milky yellow
Health:	Causes skin irritation. Causes eye irritation. May cause respiratory tract irritation. May cause an allergic skin reaction. Avoid skin and eye contact. Use with adequate ventilation. Wash thoroughly after handling.
Environmental:	Harmful to aquatic organisms. Do not release into the environment.

OSHA Hazardous Substance: Irritant, Sensitizer

Primary Route(s) of Entry: Inhalation, Skin, Eyes

Potential Health Effects:

Eyes: May cause irritation consisting of redness, swelling and pain.

Skin: May cause irritation or other allergic reactions, including redness and/or swelling.

Inhalation: May cause respiratory irritation.

Ingestion: Ingestion is unlikely but may cause nausea, diarrhea and/or stomach pain.

Chronic: Can cause an allergic skin reaction with repeated or prolonged exposure consisting of redness, swelling and/or rash (urticaria).

Medical Conditions Aggravated by Exposure

Could irritate an existing dermatitis or respiratory condition.

3. COMPOSITION INFORMATION



Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

CAS #	Component	Percent
108-32-7	1,3-Dioxolan-2-one, 4-methyl-	80-95
42594-17-2	(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate	4-19
162881-26-7	Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	0.1-1

Note: 29 CFR 1910.1200 compliant. The components disclosed are indicative of the hazard classification for this product. The balance of the formulation is a trade secret and does not affect the OSHA classification (29 CFR 1910.1200 §i).

4. FIRST AID MEASURES

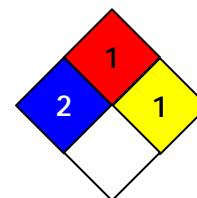
- Skin contact:** Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.
- Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Avoid exposure to light sources. Get medical attention if irritation persists.
- Inhalation:** Move affected person to fresh air. In case of asphyxia, initiate artificial respiration immediately. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion:** Ingestion is unlikely. However, if large quantities are swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes to Physician

Allergic dermatitis in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.

5. FIRE FIGHTING MEASURES

- Flash Point: > 93 °C, (> 200 °F) Method Used: estimated
- Upper Flammable Limit (UFL): NA Lower Flammable Limit (LFL): NA
- Auto Ignition: NA Rate of Burning: NA



NFPA Ratings
0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

- Hazardous Combustion Products:** Thermal decomposition products can include CO₂, CO, NO_x and smoke.
- Extinguishing Media:** Use water mist, dry chemical, carbon dioxide, or chemical foam. Avoid the use of a stream of water to control fire since frothing can occur.
- Fire Fighting Equipment/Instructions:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure-demand breathing apparatus, protective clothing and facemask. Move container from area if it can be done without risk. Cool containers with water spray. Do not use high-volume water jet. Avoid inhalation of material or combustion by-products.

6. ACCIDENTAL RELEASE MEASURES

- Containment Procedures:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. Do not release material or contaminated water into drains, soil or surface waters.
- Clean-Up Procedures:** Wear appropriate protective equipment and clothing. Absorb spillage with non-combustible absorbent materials. Place all waste in an appropriate container for disposal.
- Evacuation Procedures:** Keep unnecessary personnel away.
- Special Procedures:** NA

7. HANDLING AND STORAGE

- Handling Procedures:** Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapors or mist. Avoid ignition sources.
- Storage Procedures:** Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well-ventilated place. Store out of direct sunlight or UV light sources.
- Storage Temperature:** 0 °C – 35 °C / 32 °F – 95 °F

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines



Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

General Product Information: No occupational exposure limits (PEL/TWA) have been established for this product.

Component Analysis:

Component	Manufacturer IEL (Internal Exposure Limit)
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	1.0 mg/m ³ (8 hour TWA)

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face: Wear safety glasses or chemical goggles.

Skin: Use impervious nitrile gloves, an apron, and closed shoes.

Respiratory: If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided (NIOSH approved dust mask).

General: An eye wash fountain and a safety shower are recommended.

Engineering Controls

Ventilation must effectively remove any vapors.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	yellow	Odor	Mild
Physical State.....	Liquid	pH.....	NA
Vapor Pressure	0.03 mm Hg at 20°C	Flash Point (estimated)	> 93 °C, (> 200 °F)
Boiling Point	241 °C	Viscosity	NA
Solubility (H ₂ O)	Moderate (1-10%)	Density	NA
Percent Volatile	0	Molecular Weight.....	NA

10. CHEMICAL STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.

Conditions to Avoid: Avoid exposure to heat, light.

Incompatibility: Oxidizing materials, strong acids and strong bases.

Hazardous Decomposition: Thermal decomposition products can include CO₂, CO, NO_x, and smoke.

Hazardous Polymerization: Will not occur.

Thermal Decomposition: NA

11. TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

A: General Product Information: No data available.

B: Component Analysis:

Component	Skin Sensitization	LD ₅₀ Oral	LD ₅₀ Dermal
1,3-Dioxolan-2-one, 4-methyl-		29 .1 ml kg ⁻¹	20 ml kg ⁻¹
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	3/10 positive (Guinea pig maximization test)	>2000 mg/Kg (rat)	>2000 mg/Kg (rat)

Skin corrosivity-irritation	: some components may be skin irritants
Critical damage and irritation to the eyes	: some components may be eye irritants
Respiratory organs sensitization or skin sensitization	: some components may be skin sensitizers.

Carcinogenicity

A: General Product Information: None.

B: Component Carcinogenicity: Neither this product, nor any of its components is listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

12. ECOLOGICAL INFORMATION



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Material Name: Returned Clean-A-Part Solution

Ecotoxicity

A: General Product Information: The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material may be harmful to aquatic organisms or cause long-term adverse effects in the aquatic environment. Prevent contamination of soil, drains and surface waters.

B: Component Analysis: Ecotoxicity - Aquatic Toxicity:

Component	LC ₅₀ 96 hours	EC ₅₀ 48 hours
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	>0.09 mg/L* (Brachydanio rerio)	>1.175 mg/L* (Daphnia magna)

* Not toxic at maximum concentration level for medium.

Environmental Fate: No information available for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions

Do not contaminate drains, soil or surface waters with this material or its container.

Reduce waste by attempting to utilize product completely.

Dispose of in accordance with all local, state, and federal regulations. While this product is not RCRA hazardous waste as sold, prior to disposal of unused material, 3D Systems Inc., recommends consulting an approved waste disposal operative to ensure regulatory compliance.

14. TRANSPORT INFORMATION

	US DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
Shipping Name	Not Regulated					

15. REGULATORY INFORMATION

US FEDERAL

TSCA:.....All materials are listed on the TSCA Inventory or are not subject to TSCA requirements

TSCA Section 12(b) Export Notification.....This product does not contain any component subject to export notification.

SARA 302 EHS List (40 CFR 355 Appendix A):.....None listed

SARA 313 (40 CFR 372.65):.....None listed

CERCLA (40 CFR 302.4):.....None listed

STATE REGULATIONS:

California Proposition 65.....Components of this material may contain trace quantities of (a) substance(s) known by the state of California to cause cancer and/or reproductive hazards.

16. ADDITIONAL INFORMATION

MSDS Creation Date: May 8, 2009

MSDS Revision #: A

MSDS Revision Date:

Reason for Revision: Creation

For more information: www.3dsystems.com

800.793.3669 (Toll-free in the US GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

803.326.3900 (Outside the U.S. GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

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infringe any relevant patent now or hereafter in existence. Under no circumstances shall 3D Systems Corporation be liable for incidental, consequential, special, or other damages from alleged negligence, breach of warranty, strict liability or any other theory, arising out of the manufacture, use, sale, or handling of this product. In no event shall the liability of 3D Systems Corporation for any claims arising out of the manufacture, use, handling, or sale of its products exceed an amount equal to the buyer's purchase price.

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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

CFR = Code of Federal Regulations

CPR = Controlled Products Regulations

DOT = Department of Transportation

DSL = Domestic Substances List

EINECS = European Inventory of Existing Commercial Chemical Substances

EPA = Environmental Protection Agency

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IEL = Internal Exposure Limit

mg/Kg = milligrams per Kilogram

mg/L = milligrams per Liter

mg/m³ = milligrams per Cubic Meter

MSHA = Mine Safety and Health Administration

NA = Not Applicable or Not Available

NIOSH = National Institute for Occupational Safety and Health

NJTSSR = New Jersey Trade Secret Registry

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit

TDG = Transport Dangerous Goods

TSCA = Toxic Substances Control Act

WHMIS = Workplace Hazardous Materials Information System.

SDS

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Trade Name: Returned Clean-A-Part Solution

Chemical Family: Organic mixture

SDS Issue date: 11 May 2009, version A

Product Use: For use with film transfer imaging (FTI) systems

Manufacturer:



Manufacturer Contact	3D Systems Europe Ltd. Mark House, Mark Road Hemel Hempstead Herts HP2 7 United Kingdom
For Information	Phone: +44 144-2282600
Emergency	In an emergency call a local national poison control unit or the Chemtrec emergency number in the U.S.: (+1) 703.527.3887

2. HAZARD IDENTIFICATION

Main Hazards:

Irritant. Irritating to eyes and skin. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Classification: Hazardous, according to Directive 1999/45/EC and Annex VI, Directive 67/548/EEC



Xi (Irritant)

Risk Phrases:

- R36/38 Irritating to eyes and skin
- R43 May cause sensitization by skin contact

Safety Phrases:

- S23 Do not breathe fumes.
- S24/25 Avoid contact with skin and eyes.
- S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

3. COMPOSITION INFORMATION

Name	E.C. No.	CAS No.	Content	Symbol	R
1,3-Dioxolan-2-one, 4-methyl-	203-572-1	108-32-7	80-95%	Xi	36
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate	255-901-3	42594-17-2	1.5-9%	Xi	43
Exo-1,7,7-trimethylbicyclo-[2.2.1]hept-2-yl acrylate	227-561-6	5888-33-5	0.2-1%	Xi, N	36/37/38, 51/53



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Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	423-340-5	162881-26-7	0.1-1%	Xi	43,53
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4. FIRST AID MEASURES

- Skin contact:** Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.
- Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists. Avoid exposure to light sources.
- Inhalation:** Move affected person to fresh air. In case of asphyxia, initiate artificial respiration immediately. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion:** Ingestion is unlikely. However, if large quantities are swallowed, get medical attention do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes to Physician

Allergic dermatitis in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.

5. FIRE FIGHTING MEASURES

- Flash Point: > 93 °C, (> 200 °F) Method Used: estimated
- Upper Flammable Limit (UFL): NA Lower Flammable Limit (LFL): NA
- Auto Ignition: NA Rate of Burning: NA

- Hazardous Combustion Products:** Thermal decomposition products can include CO₂, CO, NO_x and smoke.
- Extinguishing Media:** Use water mist, dry chemical, carbon dioxide, or chemical foam. Avoid the use of a stream of water to control fire since frothing can occur.
- Fire Fighting Equipment/Instructions:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure-demand breathing apparatus, protective clothing and facemask. Move container from area if it can be done without risk. Cool containers with water spray. Do not use high-volume water jet. Avoid inhalation of material or combustion by-products.

6. ACCIDENTAL RELEASE MEASURES

- Containment Procedures:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. Do not release material or contaminated water into drains, soil or surface waters.
- Clean-Up Procedures:** Wear appropriate protective equipment and clothing. Absorb spillage with non-combustible absorbent materials. Place all waste in an appropriate container for disposal.
- Evacuation Procedures:** Keep unnecessary personnel away.
- Special Procedures:** NA

7. HANDLING AND STORAGE

- Handling Procedures:** Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or mist.
- Storage Procedures:** Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well-ventilated place. Store out of direct sunlight or other light sources.
- Storage Temperature:** 0 °C – 35 °C / 32 °F – 95 °F

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

- A: General Product Information: No occupational exposure limits have been established.
- B: Component Analysis:

Component	Manufacturer IEL
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (CAS# 162881-26-7/EC# 423-340-5)	1.0 mg/m ³ air (8-hour TWA)



Engineering Controls

Ventilation must effectively remove any vapours. An eyewash fountain and safety shower are recommended.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face: Wear chemical goggles or face shield.

Skin: Use impervious nitrile gloves and apron.

Respiratory: If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellow	Odor	Mild
Physical State.....	Liquid	pH.....	NA
Vapor Pressure	NA	Vapor Density.....	NA
Boiling Point	NA	Viscosity.....	NA
Solubility (H ₂ O)	Insoluble @ 20°C (68 °F)	Specific Gravity	NA
Percent Volatile	NA	Molecular Weight.....	NA

10. CHEMICAL STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.

Conditions to Avoid: Avoid exposure to heat and light.

Incompatibility: Oxidizing materials, strong acids and strong bases.

Hazardous Decomposition: Thermal decomposition products can include CO₂, CO, NO_x, and smoke.

11. TOXICOLOGICAL INFORMATION

Warning Statements and Properties: Irritating to skin and eyes. May cause sensitization by skin contact.

Routes of absorption: Inhalation, skin, eyes

Signs, symptoms and effects of exposure:

Eyes: May cause irritation consisting of redness, swelling and pain.

Skin: May cause irritation or other allergic reactions, including redness and/or swelling.

Inhalation: May cause respiratory irritation.

Ingestion: Ingestion is unlikely but may cause nausea, diarrhea and/or stomach pain.

Chronic: Can cause an allergic skin reaction with repeated or prolonged exposure consisting of redness, swelling and/or rash (urticaria).

Medical Conditions Aggravated by Exposure: Could irritate an existing dermatitis or respiratory condition.

Acute and Chronic Toxicity

A: General Product Information: No data available.

B: Component Analysis:

Component	Skin Sensitisation	LD ₅₀ Oral	LD ₅₀ Dermal
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	3/10 positive (Guinea pig maximization test)	>2000 mg/Kg (rat)	>2000 mg/Kg (rat)

Carcinogenicity

A: General Product Information: None.

B: Component Carcinogenicity: Neither this product or any of its components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

12. ECOLOGICAL INFORMATION

Ecotoxicity



Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

A: General Product Information: The ecological assessment of this material is based on an evaluation of its components. This product contains components that are harmful to the environment and aquatic life. Do not allow into drains and waterways.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity: Components listed are toxic to aquatic organisms and could cause long-term adverse effects in the aquatic environment.

Component	EC ₅₀	LC ₅₀	IC ₅₀	EC ₅₀
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	>1.175mg/l* (<i>Daphnia magna</i> , 48 hr)	>0.09 mg/l* (<i>Brachydanio rerio</i> , 96 hr)	> 100mg/l (Sewage Sludge)	>0.26 mg/l (<i>Scenedesmus sp.</i>)

* Not toxic at maximum concentration level for medium.

Environmental Fate: No information available for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions

Do not contaminate drains, soil or surface waters with this material or its container.

Reduce waste by attempting to utilize product completely.

Dispose of this product and its container in accordance with all local, state, and federal regulations. Prior to disposal of unused material, 3D Systems Inc., recommends consulting an approved waste disposal operative to ensure regulatory compliance.

14. TRANSPORT INFORMATION

	US DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
Shipping Name	Not Regulated					

15. REGULATORY INFORMATION

European Union Regulatory Information

This product is labeled as follows:

- Xi Irritant
- R36/37/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- S23 Do not breathe fumes/vapour.
- S24/25 Avoid contact with skin and eyes.
- S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Contains: Tricyclodecane Dimethanol Diacrylate and phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide. Can cause an allergic reaction.

16. ADDITIONAL INFORMATION

Full text of all Risk Phrases in Sections 2 & 3

- R36 Irritating to skin.
- R36/38 Irritating to eyes and skin
- R36/37/38 Irritating to eyes, respiratory system and skin
- R43 May cause sensitization by skin contact.
- R51/53 Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.
- R53 May cause long-term adverse effects in the aquatic environment.

MSDS Creation Date: 11 May 2009

MSDS Revision #: A

MSDS Revision Date:

Reason for Revision: Release

For more information: www.3dsystems.com

800.793.3669 (Toll-free in the US GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

803-326-3900 (Outside the U.S. GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)



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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

CFR = Code of Federal Regulations

CPR = Controlled Products Regulations

DOT = Department of Transportation

DSL = Domestic Substances List

EINECS = European Inventory of Existing Commercial Chemical Substances

EPA = Environmental Protection Agency

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IDL = Ingredients Disclosure List

IEL = Internal Exposure Limit

mg/Kg = milligrams per Kilogram

mg/L = milligrams per Liter

mg/m³ = milligrams per Cubic Meter

MSHA = Mine Safety and Health Administration

NA = Not Applicable or Not Available

NIOSH = National Institute for Occupational Safety and Health

NJTSR = New Jersey Trade Secret Registry

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit

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WHMIS = Workplace Hazardous Materials Information System.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Trade Name: Returned Clean-A-Part Solution

Chemical Family: Organic mixture

SDS Issue date: 11 May 2009, version A

Product Use: For use with film transfer imaging (FTI) systems

Manufacturer:



Manufacturer Contact	3D Systems Europe Ltd. Mark House, Mark Road Hemel Hempstead Herts HP2 7 United Kingdom
For Information	Phone: +44 144-2282600
Emergency	In an emergency call a local national poison control unit or the Chemtrec emergency number in the U.S: (+1) 703.527.3887

2. HAZARD IDENTIFICATION

Main Hazards:

Irritant. Irritating to eyes and skin. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Classification: Hazardous, according to Directive 1999/45/EC and Annex VI, Directive 67/548/EEC



Xi (Irritant)

Risk Phrases:

R36/38 Irritating to eyes and skin
R43 May cause sensitization by skin contact

Safety Phrases:

S23 Do not breathe fumes.
S24/25 Avoid contact with skin and eyes.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

3. COMPOSITION INFORMATION

Name	E.C. No.	CAS No.	Content	Symbol	R
1,3-Dioxolan-2-one, 4-methyl-	203-572-1	108-32-7	80-95%	Xi	36



Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

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(Octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate	255-901-3	42594-17-2	1.5-9%	Xi	43
Exo-1,7,7-trimethylbicyclo-[2.2.1]hept-2-yl acrylate	227-561-6	5888-33-5	0.2-1%	Xi, N	36/37/38, 51/53
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	423-340-5	162881-26-7	0.1-1%	Xi	43,53

4. FIRST AID MEASURES

- Skin contact:** Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.
- Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists. Avoid exposure to light sources.
- Inhalation:** Move affected person to fresh air. In case of asphyxia, initiate artificial respiration immediately. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion:** Ingestion is unlikely. However, if large quantities are swallowed, get medical attention do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes to Physician

Allergic dermatitis in susceptible individuals may be delayed. It may appear after weeks or even months of frequent and prolonged contact.

5. FIRE FIGHTING MEASURES

- Flash Point: > 93 °C, (> 200 °F) Method Used: estimated
- Upper Flammable Limit (UFL): NA Lower Flammable Limit (LFL): NA
- Auto Ignition: NA Rate of Burning: NA

- Hazardous Combustion Products:** Thermal decomposition products can include CO₂, CO, NO_x and smoke.
- Extinguishing Media:** Use water mist, dry chemical, carbon dioxide, or chemical foam. Avoid the use of a stream of water to control fire since frothing can occur.
- Fire Fighting Equipment/Instructions:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure-demand breathing apparatus, protective clothing and facemask. Move container from area if it can be done without risk. Cool containers with water spray. Do not use high-volume water jet. Avoid inhalation of material or combustion by-products.

6. ACCIDENTAL RELEASE MEASURES

- Containment Procedures:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. Do not release material or contaminated water into drains, soil or surface waters.
- Clean-Up Procedures:** Wear appropriate protective equipment and clothing. Absorb spillage with non-combustible absorbent materials. Place all waste in an appropriate container for disposal.
- Evacuation Procedures:** Keep unnecessary personnel away.
- Special Procedures:** NA

7. HANDLING AND STORAGE

- Handling Procedures:** Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or mist.
- Storage Procedures:** Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well-ventilated place. Store out of direct sunlight or other light sources.
- Storage Temperature:** 0 °C – 35 °C / 32 °F – 95 °F

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

- A: General Product Information: No occupational exposure limits have been established.
- B: Component Analysis:



Component	Manufacturer IEL
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (CAS# 162881-26-7/EC# 423-340-5)	1.0 mg/m ³ air (8-hour TWA)

Engineering Controls

Ventilation must effectively remove any vapours. An eyewash fountain and safety shower are recommended.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face: Wear chemical goggles or face shield.

Skin: Use impervious nitrile gloves and apron.

Respiratory: If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellow	Odor	Mild
Physical State.....	Liquid	pH.....	NA
Vapor Pressure	NA	Vapor Density.....	NA
Boiling Point	NA	Viscosity	NA
Solubility (H ₂ O)	Insoluble @ 20°C (68 °F)	Specific Gravity	NA
Percent Volatile	NA	Molecular Weight.....	NA

10. CHEMICAL STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.

Conditions to Avoid: Avoid exposure to heat and light.

Incompatibility: Oxidizing materials, strong acids and strong bases.

Hazardous Decomposition: Thermal decomposition products can include CO₂, CO, NO_x, and smoke.

11. TOXICOLOGICAL INFORMATION

Warning Statements and Properties: Irritating to skin and eyes. May cause sensitization by skin contact.

Routes of absorption: Inhalation, skin, eyes

Signs, symptoms and effects of exposure:

Eyes: May cause irritation consisting of redness, swelling and pain.

Skin: May cause irritation or other allergic reactions, including redness and/or swelling.

Inhalation: May cause respiratory irritation.

Ingestion: Ingestion is unlikely but may cause nausea, diarrhea and/or stomach pain.

Chronic: Can cause an allergic skin reaction with repeated or prolonged exposure consisting of redness, swelling and/or rash (urticaria).

Medical Conditions Aggravated by Exposure: Could irritate an existing dermatitis or respiratory condition.

Acute and Chronic Toxicity

A: General Product Information: No data available.

B: Component Analysis:

Component	Skin Sensitisation	LD ₅₀ Oral	LD ₅₀ Dermal
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	3/10 positive (Guinea pig maximization test)	>2000 mg/Kg (rat)	>2000 mg/Kg (rat)

Carcinogenicity

A: General Product Information: None.

B: Component Carcinogenicity: Neither this product or any of its components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

12. ECOLOGICAL INFORMATION



Ecotoxicity

A: General Product Information: The ecological assessment of this material is based on an evaluation of its components. This product contains components that are harmful to the environment and aquatic life. Do not allow into drains and waterways.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity: Components listed are toxic to aquatic organisms and could cause long-term adverse effects in the aquatic environment.

Component	EC ₅₀	LC ₅₀	IC ₅₀	EC ₅₀
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	>1.175mg/l* (<i>Daphnia magna</i> , 48 hr)	>0.09 mg/l* (<i>Brachydanio rerio</i> , 96 hr)	> 100mg/l (<i>Sewage Sludge</i>)	>0.26 mg/l (<i>Scenedesmus sp.</i>)

* Not toxic at maximum concentration level for medium.

Environmental Fate: No information available for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Instructions

Do not contaminate drains, soil or surface waters with this material or its container.

Reduce waste by attempting to utilize product completely.

Dispose of this product and its container in accordance with all local, state, and federal regulations. Prior to disposal of unused material, 3D Systems Inc., recommends consulting an approved waste disposal operative to ensure regulatory compliance.

14. TRANSPORT INFORMATION

	US DOT	RID/ADR	IMDG	IATA	IMO	Canada TDG
Shipping Name	Not Regulated					

15. REGULATORY INFORMATION

European Union Regulatory Information

This product is labeled as follows:

- Xi Irritant
- R36/37/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- S23 Do not breathe fumes/vapour.
- S24/25 Avoid contact with skin and eyes.
- S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Contains: Tricyclodecane Dimethanol Diacrylate and phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide. Can cause an allergic reaction.

16. ADDITIONAL INFORMATION

Full text of all Risk Phrases in Sections 2 & 3

- R36 Irritating to eyes
- R36/38 Irritating to eyes and skin
- R36/37/38 Irritating to eyes, respiratory system and skin
- R43 May cause sensitization by skin contact.
- R51/53 Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.
- R53 May cause long-term adverse effects in the aquatic environment.

MSDS Creation Date: 11 May 2009
 MSDS Revision #: B
 MSDS Revision Date: 05 Oct 2009
 Reason for Revision: Updated R 36
 For more information: www.3dsystems.com



Material Safety Data Sheet

Material Name: Returned Clean-A-Part Solution

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800.793.3669 (Toll-free in the US GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)
803-326-3900 (Outside the U.S. GMT-07:00; N. America, Mon – Fri, 6:00 a.m. to 6 p.m.)

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Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

CFR = Code of Federal Regulations

CPR = Controlled Products Regulations

DOT = Department of Transportation

DSL = Domestic Substances List

EINECS = European Inventory of Existing Commercial Chemical Substances

EPA = Environmental Protection Agency

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IDL = Ingredients Disclosure List

IEL = Internal Exposure Limit

mg/Kg = milligrams per Kilogram

mg/L = milligrams per Liter

mg/m³ = milligrams per Cubic Meter

MSHA = Mine Safety and Health Administration

NA = Not Applicable or Not Available

NIOSH = National Institute for Occupational Safety and Health

NJTSR = New Jersey Trade Secret Registry

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit

TDG = Transport Dangerous Goods

TSCA = Toxic Substances Control Act

WHMIS = Workplace Hazardous Materials Information System.