SAFETY DATA SHEETS

This SDS packet was issued with item:

071430578

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

071167303 071336353 071341486 071431071 071431097 071431121 071431139 071431154 071431188 071431246

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

273008843

SAFETY DATA SHEET

NAME OF PRODUCT: TRIM® PLUS Liquid

FILE NO.: SDS936
SDS DATE: 04/13/2015

SECTION 1: IDENTIFICATION

PRODUCT NAME:	TRIM PLUS Liquid
PRODUCT CODES:	0921930, 0921936, 0921937
IDENTIFIED USES:	Dentistry
USES ADVISED AGAINST:	Non-dental use
MANUFACTURER:	Harry J. Bosworth Company
ADDRESS:	7227 North Hamlin Avenue, Skokie, Illinois 60076-3999, USA
TELEPHONE:	847-679-3400
FAX:	847-679-2080
EMAIL:	hjbinfo@bosworth.com
EMERGENCY PHONE:	800-535-5053 (US and Canada) 352-323-3500 (International)

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION:
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 5)
Acute toxicity, Dermal (Category 5)
Skin irritation (Category 2)
Skin sensitization (Category 1)
Acute toxicity, Inhalation (Category 5)
Specific target organ toxicity - single exposure (Category 3), Respiratory system
Specific target organ toxicity - repeated exposure (Category 2)
Chronic aquatic toxicity (Category 4)

LABELING: FDA regulated device - exempt from Regulation (US) 29 CFR 1910.1200.

PICTOGRAM:

SIGNAL WORD: Danger

HAZARD STATEMENTS:		
	H225	Highly flammable liquid and vapor.
	H303	May be harmful if swallowed.
	H313	May be harmful in contact with skin.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H333	May be harmful if inhaled.
	H335	May cause respiratory irritation.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H413	May cause long lasting harmful effects to aquatic life.
PRECAUTIONARY STATEMENTS:	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
	P234	Keep only in original container.
	P235+P410	Keep cool. Protect from sunlight.
	P240	Ground/bond container and receiving equipment.
	P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
	P242	Use only non-sparking tools.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
	P264	Wash thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P303+P361+P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
	P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P321	Specific treatment (see supplemental first aid instructions on this label).
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.
P370+P378	In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
P391	Collect spillage.
P402	Store in a dry place.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	%WT	OSHA PEL - TWA	ACGIH TLV - TWA	CLASSIFICATION
Methyl methacrylate	80-62-6	60-100	100 ppm	50 ppm	Flam. Liq. 2; Skin Irrit. 2; Skin Sens. 1; STOT SE 3; H225, H315, H317, H335
N,N-Dimethyl-p-toluidine	99-97-8	1-5	N/E	N/E	Flam. Liq. 4; Acute Tox. 3; STOT RE 2; Aquatic Acute 3; Aquatic Chronic 3; H227, H301+H311+H331, H373, H412

For full text of H-statements mentioned in this section, see section 16.

SECTION 4: FIRST-AID MEASURES

INHALATION: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

SKIN: Wash off with soap and plenty of water. Consult a physician.

EYE: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

SPECIAL HAZARDS: Sealed containers exposed to elevated temperatures may rupture explosively due to polymerization. Vapors are heavier than air and may travel to ignition source. Vapors are uninhibited and may form polymers in vents or flame arrestors resulting in stoppage of vents.

ADVICE FOR FIREFIGHTERS: Fight fires from safe distance or protected areas. Cool containers of material exposed to heat with cold water spray. Wear self contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

ENVIRONMENTAL PRECAUTIONS: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

CONTAINMENT AND CLEANUP: Soak up with inert absorbent material and collect with an electrically protected vacuum cleaner or by wet-brushing. Place in suitable, closed container for disposal according to official regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Product is intended for dental use only. Handling of this product should be by trained dental healthcare professionals only. Observe normal care for working with chemicals. Avoid contact with the eyes and skin. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Keep away from foodstuffs, beverages and animal feed.

CONDITIONS FOR SAFE STORAGE: Store only in the original package. Keep container tightly sealed in a dry and well-ventilated place. Protect from heat and direct sunlight. Store away from food and beverages.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:	Handle in accordance with good industrial hygiene and safety practice. Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Local exhaust ventilation is preferred since it prevents contamination dispersion into the work area by controlling it at its source. Provide eyewash and safety shower if contact or splash hazard exists. Wash hands before breaks and at the end of work.
EYE/FACE PROTECTION:	Safety glasses.
SKIN PROTECTION:	Glove material impermeable and resistant to the product.
BODY PROTECTION:	Protective work clothing.
RESPIRATORY PROTECTION:	NIOSH (US) or CEN (EU) approved respirators and components.
ENVIRONMENTAL EXPOSURE:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/COLOR:	Clear, colorless liquid
ODOR:	Acrid
BOILING POINT:	216°F (102°C)
FLASH POINT:	50°F (10°C)
EVAPORATION RATE (BuAc = 1.0):	3
UPPER FLAMMABILITY LIMIT:	12.5
LOWER FLAMMABILITY LIMIT:	2.1
VAPOR PRESSURE:	29 mmHg
VAPOR DENSITY (AIR=1.0):	3.5
RELATIVE DENSITY (H2O=1.0):	0.95 g/cm^3
WATER SOLUBILITY:	1.5 wt%

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under recommended storage conditions. Polymerizes with evolution of heat. Avoid contact with incompatible materials. Unless inhibited, product can polymerize, raising temperature and pressure, possibly rupturing container. Check inhibitor content often adding to bulk liquid if needed. Do not blanket or mix with oxygen-free gas as it renders inhibitor ineffective.
HAZARDOUS REACTIONS:	Vapors may form explosive mixture with air. Polymerizes readily unless inhibited.
CONDITIONS TO AVOID:	Heat, flames, sparks, aging, contamination and absence of an oxygen containing atmosphere above the product. May polymerize upon exposure to light. Extremes of temperature and direct sunlight.
INCOMPATIBLE MATERIALS:	Oxidizing agents, peroxides, amines, bases, acids, reducing agents, halogens. Material has strong solvent properties and can soften paint and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:	**EYES:** May cause eye irritation with redness, tearing and stinging. **SKIN:** May cause skin irritation with redness, swelling and itching. Repeated or prolonged contact may cause drying, defatting of the skin and dermatitis. **INGESTION:** May cause mucous membrane and gastrointestinal irritation with nausea, vomiting and diarrhea. May cause nervous system depression with symptoms of headache, dizziness, nausea, vomiting, weakness, fatigue, confusion, and unconsciousness. **INHALATION:** May cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, drowsiness, nausea, vomiting, and unconsciousness. High vapor concentrations may cause burning sensation of the nose and throat and watering of the eyes.
SKIN SENSITIZATION:	May cause allergic skin reaction.
CARCINOGENICITY:	**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or possible carcinogen by OSHA. **ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. **NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. **IARC:** Methyl methacrylate is identified as not classifiable as to its carcinogenicity to humans by IARC.

SECTION 12: ECOLOGICAL INFORMATION

ADVERSE EFFECTS: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May cause long lasting harmful effects to aquatic life. Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

PRODUCT: Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

CONTAMINATED PACKAGING: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

UN NUMBER:	UN1247
PROPER SHIPPING NAME:	Methyl methacrylate monomer, stabilized
HAZARD CLASS:	3
PACKING GROUP:	II
LABEL STATEMENT:	Flammable Liquid

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: This product is an FDA regulated device and not subject to TSCA regulations.

CERCLA: This product is an FDA regulated device and not subject to reporting requirements. There may be specific reporting requirements at the local, regional, or state level.

SARA 313 TOXIC CHEMICALS: The following components are subject to reporting levels established by SARA Title III, Section 313 (40 CFR 372): *Methyl Methacrylate, CAS NO. 80-62-6.*

SARA 311/312 HAZARDS: This product is an FDA regulated device and not subject to reporting requirements.

US STATE REGULATIONS

CALIFORNIA PROPOSITION 65: This product may contain a chemical known to the State of California to cause cancer and/or reproductive toxicity.

INTERNATIONAL REGULATIONS

CANADIAN ENVIRONMENTAL PROTECTION ACT: This product is a medical device and not subject to chemical notification requirements.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): This product is a medical device and not subject to chemical notification requirements.

SECTION 16: OTHER INFORMATION

FULL TEXT OF H STATEMENTS REFERRED TO UNDER SECTION 3

Acute Tox.	**Acute toxicity**
Aquatic Acute	**Acute aquatic toxicity**
Aquatic Chronic	**Chronic aquatic toxicity**
Flam. Liq.	**Flammable liquids**
H225	**Highly flammable liquid and vapor.**
H227	**Combustible liquid.**
H301+H311+H331	**Toxic if swallowed, in contact with skin or if inhaled.**
H315	**Causes skin irritation.**
H317	**May cause an allergic skin reaction.**
H335	**May cause respiratory irritation.**
H373	**May cause damage to organs through prolonged or repeated exposure.**
H412	**Harmful to aquatic life with long lasting effects.**
Skin Irrit.	**Skin irritation**

Skin Sens.	**Skin sensitization**
STOT RE	**Specific target organ toxicity – repeated exposure**
STOT SE	**Specific target organ toxicity – single exposure**

NFPA RATING

Health Hazard	2
Fire Hazard	3
Reactivity Hazard	2

PREPARATION INFORMATION: This SDS was prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is to be used only for this product.

DISCLAIMER: To the best of our knowledge, the information contained herein is accurate. However, The Harry J. Bosworth Company does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Trim Plus Powder (Clear, Tooth Shade)

Section 1. Identification

GHS product identifier : Trim Plus Powder (Clear, Tooth Shade)

Other means of identification : Not available.

Product code : 0921930, 0921931, 0921933

Product type : Solid.

Product use : Dental Products

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

Not applicable.

Supplier's details : Keystone Industries
52 West King Street
Myerstown, PA 17067
(856) 663-4700

Emergency telephone number (with hours of operation) : (800) 535-5053

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1B
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 80%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May cause an allergic skin reaction.
May cause cancer.
Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

May contain one or more of the following components in quantities considered hazardous:

Ingredient name	CAS number	EC number	%
dibenzoyl peroxide	94-36-0	202-327-6	≤3
titanium dioxide	13463-67-7	236-675-5	≤1
Cadmium (Non-pyrophoric)	7440-43-9	231-152-8	<1

Cadmium and Titanium Dioxide are not included in clear shade.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.

Skin contact : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.
redness
irritation

Ingestion : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 240°C (464°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
dibenzoyl peroxide	**ACGIH TLV (United States, 3/2016).** TWA: 5 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
titanium dioxide	**ACGIH TLV (United States, 3/2016).** TWA: 10 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
cadmium (non-pyrophoric)	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 µg/m³ 8 hours. TWA: 0.2 mg/m³, (as Cd) 8 hours. Form: Dust CEIL: 0.6 mg/m³, (as Cd) Form: Dust TWA: 0.1 mg/m³, (as Cd) 8 hours. Form: Fume CEIL: 0.3 mg/m³, (as Cd) Form: Fume **OSHA PEL Z2 (United States, 2/2013).** TWA: 0.2 mg/m³ 8 hours. Form: Dust CEIL: 0.6 mg/m³ Form: Dust TWA: 0.1 mg/m³ 8 hours. Form: Fume CEIL: 0.3 mg/m³ Form: Fume **OSHA PEL (United States, 2/2013).** TWA: 5 µg/m³, (as Cd) 8 hours. **ACGIH TLV (United States, 3/2016).** TWA: 0.01 mg/m³, (as Cd) 8 hours. Form: Inhalable fraction TWA: 0.002 mg/m³, (as Cd) 8 hours. Form: Respirable fraction

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Fine powder]

Color : Tan.

Odor : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 304°C (579.2°F)

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.25

Solubility : Insoluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
dibenzoyl peroxide	LD50 Oral	Rat	6400 mg/kg	-
cadmium (non-pyrophoric)	LD50 Oral	Rat	2330 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
dibenzoyl peroxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Human	-	1344 hours 5 Percent Intermittent	-
	Skin - Moderate irritant	Woman	-	1 Percent	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

Classification

Product/ingredient name	OSHA	IARC	NTP
dibenzoyl peroxide	-	3	-
titanium dioxide	-	2B	-
cadmium (non-pyrophoric)	+	1	-

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
cadmium (non-pyrophoric)	Category 1	Not determined	Not determined

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.

Skin contact : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.
redness
irritation

Ingestion : Adverse symptoms may include the following:
Suspected of damaging fertility.
Suspected of damaging fertility or the unborn child.
Suspected of damaging the unborn child.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
dibenzoyl peroxide	EC50 0.83 mg/l	Algae	72 hours
	EC50 0.07 mg/l	Daphnia	48 hours
	LC50 2 mg/l	Fish	96 hours
titanium dioxide	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
cadmium (non-pyrophoric)	Acute EC50 97 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 0.095 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 200 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 13.5 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 1 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 2 µg/l Fresh water	Algae - Parachlorella kessleri - Exponential growth phase	72 hours
	Chronic NOEC 0.02 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks

Product/ingredient name	Test	Result	Dose	Inoculum
dibenzoyl peroxide	-	60 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
dibenzoyl peroxide	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
dibenzoyl peroxide	3.2	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

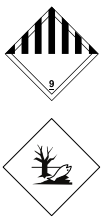
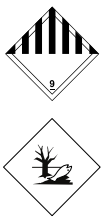
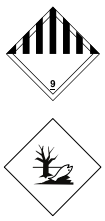
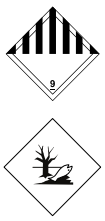
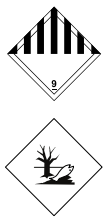
Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Section 13. Disposal considerations

Ingredient	CAS #	Status	Reference number
Diethyl phthalate; 1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	Listed	U088

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN3077	UN3077	UN3077	UN3077	UN3077	UN3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cadmium, dibenzoyl peroxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dibenzoyl peroxide)
Transport hazard class(es)	9 	9 	9 	9 	9 	9 
Packing group	III	III	III	III	III	III
Environmental hazards	No.	Yes.	Yes.	Yes.	Yes.	Yes.
Additional information	**Reportable quantity** 1111.1 lbs / 504.44 kg The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous substances' that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2. 43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4. 1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Tunnel code** (E)	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4. 1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **IMDG Code Segregation group** 16 - Peroxides	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5. 0.2.4.1, 5.0.2.6. 1.1 and 5.0.2.8.

Section 14. Transport information

	Package sizes less than the product reportable quantity are not regulated as hazardous materials.					

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: diethyl phthalate; Cadmium (Non-pyrophoric)

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
dibenzoyl peroxide	≤3	Yes.	No.	Yes.	Yes.	No.
titanium dioxide	≤1	No.	No.	No.	No.	Yes.
cadmium (non-pyrophoric)	<1	No.	No.	No.	Yes.	Yes.

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	dibenzoyl peroxide Cadmium (Non-pyrophoric)	94-36-0 7440-43-9	≤3 <1
Supplier notification	dibenzoyl peroxide Cadmium (Non-pyrophoric)	94-36-0 7440-43-9	≤3 <1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: DIETHYL PHTHALATE; 1, 2-BENZENEDICARBOXYLIC ACID DIETHYL ESTER; BENZOYL PEROXIDE

New York : The following components are listed: Diethyl phthalate; Cadmium

New Jersey : The following components are listed: DIETHYL PHTHALATE; 1, 2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER; DEP; BENZOYL PEROXIDE; DIBENZOYLPEROXIDE; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO2); CADMIUM

Pennsylvania : The following components are listed: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER; PEROXIDE, DIBENZOYL; TITANIUM OXIDE; CADMIUM DUST

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
titanium dioxide Cadmium (Non-pyrophoric)	Yes. Yes.	No. Yes.	No. 0.05 µg/day (inhalation)	No. 4.1 µg/day (ingestion)

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
Turkey inventory: Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		1
Physical hazards		0
Personal protection		

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 8/10/2016

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Date of previous issue : No previous validation

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Section 16. Other information

Information contained within this SDS is only to be distributed as required by law.