Material Safety Data Sheet

DATE: 5/15/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	PROTAL 7125 PART A RESIN
Product Use Description	Vinyl Ester Resin
Manufacturer / Importer/ Distributor	Denso North America 9747 Whithorn Drive Houston, Texas 77095 281-821-3355 (Office) 281-821-0304 (Fax)
Telephone	1-281-821-3355 Corporate 1-888-821-2300 Toll Free Number
Emergency Telephone Number (24Hour)	1-801-629-0667

2. HAZARDS IDENTIFICATION

Emergency Overview	**WARNING!** Flammable Liquid. Vapors may form explosive mixtures with air. May cause eye, skin and respiratory tract irritation. Harmful by inhalation, skin contact, and if swallowed. Hazardous polymerization may occur. Heated material can cause thermal burns. Aspiration hazard if swallowed - can enter lungs and cause damage
Potential Health Effects	
Inhalation	Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8). May cause respiratory tract irritation, CNS-depression and narcosis.
Ingestion	Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury. Swallowing may cause irritation, vomiting, nausea and diarrhea.
Eye contact	Can cause eye irritation. Symptoms include stinging, tearing, redness and swelling of eyes.
Skin contact	Can cause skin irritation. Prolonged or repeated contact may dry skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.
Target Organs	Liver, Kidney, Central Nervous System (CNS), Respiratory system.
Chronic Effects	Styrene is listed as a possible human carcinogen by IARC and as reasonably anticipated to be a human carcinogen by NTP. This material (or a component) has been shown to cause harm to the fetus in lab animal studies at exposure levels that harm the pregnant animal as well.
Signs and Symptoms	Repeated and/or prolonged exposure may cause metallic taste, nausea, vomiting, diarrhea, dizziness, drowsiness, fatigue, headache, loss of coordination, confusion, liver damage, and skin, eye, and respiratory irritation.
Potential environmental effects	No data is available.
Aggravated Medical Condition	Pre-existing skin disorders may be aggravated by over-exposure to this product.

See section 11 for more detailed toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS Number	(weight)
Styrene	100-42-5	20-40%

CHEMICAL FAMILY : Vinyl Ester Resin Mixture

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

4. FIRST AID MEASURES

General advice

Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact

Flush contaminated skin with plenty of 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. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. For contact with hot product, flush contaminated skin with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze. Get medical attention immediately.

Ingestion

Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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 if adverse health effects persist or are severe. 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.

Inhalation

Move exposed person to fresh air. Keep person warm and at rest. 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 adverse health effects persist or are severe. 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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Alcohol-resistant foam.
Carbon dioxide (CO2)
Dry chemical.
Dry sand.

Chronic Health Hazard	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, phenols, various hydrocarbons. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.
Special protective equipment for fire-fighters	Material is volatile and readily gives off vapors which may be ignited by any ignition source near the material. Never use welding or cutting torch on or near drums (even empty) because product can ignite explosively. Avoid contact with the skin. Fire-fighters should wear appropriate personal protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode. DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.
Further information	Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources (flares, flames, sparks, etc.). Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled materials. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
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 for cleaning up	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Use absorbent with inert material. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
Additional advice	Stop leak if without risk.

7. HANDLING AND STORAGE

Handling	Put on appropriate personal protective equipment (see section 8). 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 or smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breath vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
Storage	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. 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. Do not blanket or purge with an inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Consult local authorities for accepted exposure limits.

Exposure Guidelines

Styrene	100-42-5		TWA	STEL	REL	CLV
		ACGIH	20 ppm	40 ppm		
		NIOSH		100 ppm	50 ppm	
		OSHA	100 ppm			200 ppm

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering measures	Use only with adequate ventilation. 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.
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. Wash contaminated clothing before reusing or discard as necessary. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicated this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Eye 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. This may include, but is not limited to, safety glasses, goggles and face shields.
Skin 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. This equipment may include, but is not limited to, impervious gloves, gauntlets, impervious shoes/boots, and protective clothing. The breakthrough time of the selected protective glove(s), shoes, and clothing must be greater than the intended use period.
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. Environmental exposure controls may also include dikes or other liquid containment devices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid.	Auto-ignition temperature	N/A
Color	White.	Odor threshold	N/A
Odor	Irritating.	Evaporation rate	N/A
Flammable Limits	N/A	Viscosity	25,000 cP
Relative vapor density	N/A	pH	7
Relative Density	1.44	Boiling point/range	N/A
Vapor Pressure	N/A	Flash point	N/A
Density at 70°F (21°C)	12.00 lbs/gal	Water solubility	Negligible

10. STABILITY AND REACTIVITY

Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid heat, open flame, and prolonged storage at elevated temperatures.
Materials to avoid	Explosive, reactive or incompatible with the following materials: Acids — Iron chloride — Strong alkalis Aluminum chloride — Metal salts — Strong oxidizing agents Halogens — Peroxides — UV light
Other hazards	Product can undergo hazardous polymerization if contaminated with peroxides, metal salts and polymerization catalysts. Product will undergo hazardous polymerization at temperatures above 150°F (65°C).
Hazardous decomposition products	Decomposition products may include the following materials: Carbon oxides, phenols, toxic fumes, various hydrocarbons

11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

Acute toxicity ingredient name	Styrene				
	LD50 Oral	Rat	2650	mg/kg	
	LD50 Dermal	Rat	>2000	mg/kg	
	LC50 Inhalation	Rat	2800	ppm	4 h Exposure Time

Other toxicological information	Carcinogenicity	Styrene is listed as a possible human carcinogen by IARC and as reasonably anticipated to be a human carcinogen by NTP. This material or a component has been shown to cause harm to the fetus in lab animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal.

Eye irritation/corrosion	Irritating to the eye.
Skin irritation/corrosion	Irritating to skin.
Inhalation	Breathing large amounts may be harmful.
Ingestion	Swallowing large amounts may be harmful.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity	No data is available on the product itself.
Toxicity to other organisms	No data available.

Persistence and degradability

Biodegradability	No data is available on the product itself.
Mobility	No data available.
Bioaccumulation	No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Waste disposal — The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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 and local authority requirements. Avoid disposal of spilled material and runoff and contact with soil, waterways, drains and sewers. Dispose of contaminated containers, soils, etc. in compliance with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation. For complete transportation information, contact an Denso customer service representative.

Regulatory Information	UN/ID No.	Proper shipping name	Class or Division Packing group	Reportable Quantities
CFR	UN1866	RESIN SOLUTION	Class 3, PG III	1000 LBS (STYRENE)
TDG	UN1866	RESIN SOLUTION	Class 3, PG III	1000 LBS (STYRENE)
IMO/IMDG	UN1866	RESIN SOLUTION	Class 3, PG III	1000 LBS (STYRENE)
IATA	UN1866	RESIN SOLUTION	Class 3, PG III	1000 LBS (STYRENE)

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Components(s).
None.

OSHA Hazard Communication Standard (29 CFR 1910.1 200) Hazard Class(es)
Reactivity Hazard, Fire Hazard

Country	Regulatory List	Notification
USA	TSCA 8b	All components listed or exempted.
Canada	DSL	All components listed or exempted.
Australia	AICS	All components listed or exempted.
Japan	ENCS	All components listed or exempted.
South Korea	TCCL	All components listed or exempted.
Philippines	TSHNWCA	One or more chemicals are not listed or exempted.
China	CIECS	One or more chemicals are not listed or exempted.

HCS Classification — Irritating material, Sensitizing material

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
Reactivity Hazard, Fire Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
Styrene

EPA SARA Title III Section 302 Extremely Hazardous Substances
None.

State regulations	Massachusetts RTK Substances - None required. New Jersey RTK Substances - None required. Pennsylvania RTK Substances - None required. California Proposition 65 - This product contains benzene which is known to the state of California to cause cancer and birth defects and other reproductive hazards as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.
WHMIS Hazard Classification (Canada)	Class D-2B: Material causing other toxic effects (Toxic). Class B2: Flammable solution Class D-2A: Very toxic materials F: Dangerously reactive material
Canadian lists	Canadian NPRI: Styrene.

16. OTHER INFORMATION

HMIS®

Health	2
Flammability	3
Physical hazard	1
Chronic	

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 MSDS's 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.

Prepared by	Denso EH & S Department
Telephone	1-281-821-3355 Corporate 1-801-629-0667 Emergency (24 hour)
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Notice to reader

The information provided herein was believed by Denso North America ("Denso") to be accurate at the time of preparation of prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Denso are subject to Denso's terms and conditions of sale. DENSO MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY DENSO, except that the product shall conform to Denso's specifications. Nothing contained herein constitutes an offer for the sale of any product.

Material Safety Data Sheet

DATE: 5/15/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	PROTAL 7125 PART B CATALYST
Product Use Description	Vinyl Ester Resin Catalyst
Manufacturer / Importer/ Distributor	Denso North America 9747 Whithorn Drive Houston, Texas 77095 281-821-3355 (Office) 281-821-0304 (Fax)
Telephone	1-281-821-3355 Corporate 1-888-821-2300 Toll Free Number
Emergency Telephone Number (24Hour)	1-801-629-0667

2. HAZARDS IDENTIFICATION

Emergency Overview	**WARNING!** Organic Peroxide. Decomposition Hazard. Irritant to eyes and skin. Poison by ingestion. May cause systemic eye effects by ingestion. May cause nausea, vomiting and other gastrointestinal effects, if swallowed. Heated material can cause thermal burns.
Potential Health Effects	
Inhalation	Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8). Not expect to be an inhalation hazard.
Ingestion	Poison by ingestion. May cause systemic eye effects, such as hallucinations or distorted perceptions. May also cause nausea or vomiting and kidney, ureter or bladder changes.
Eye contact	May cause inflammation and irritation of the eyes.
Skin contact	May cause irritation and redness of the skin.
Target Organs	Skin. Eyes. Respiratory system. Testes. Blood vessels.
Chronic Effects	May cause dermatitis, asthmatic effects, testicular atrophy, and vasodilation. Mutation data reported.
Signs and Symptoms	Repeated and/or prolonged exposure may cause dermatitis, asthmatic effects, eye inflammation.
Potential environmental effects	No data is available.
Aggravated Medical Condition	There are no know medical conditions, which are recognized as being aggravated by exposure to this product.

See section 11 for more detailed toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS Number	(weight)
Benzoyl Peroxide	94-36-0	15-25%
C_{9-11}-branched alkyl benzoate	131298-44-7	5-10%
Zinc Stearate	557-05-1	<5%
Calcium Sulfate Dihydrate	7778-18-9	<5%
Dioctyl Phthalate	117-81-7	25-45%

CHEMICAL FAMILY : Benzoyl Peroxide Mixture

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

4. FIRST AID MEASURES

General advice

Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact

Flush contaminated skin with plenty of 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. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. For contact with hot product, flush contaminated skin with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze. Get medical attention immediately.

Ingestion

Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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 if adverse health effects persist or are severe. 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.

Inhalation

Move exposed person to fresh air. Keep person warm and at rest. 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 adverse health effects persist or are severe. 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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Alcohol-resistant foam. Water.
Carbon dioxide (CO2) Dry sand.

Chronic Health Hazard	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, phenols, various hydrocarbons. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate personal protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode. In case of fire near storage area, cool the containers with water spray. If dry chemical is used to extinguish an MEKP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.
Further information	The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical extinguishing agent may catalyze the decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Eliminate all ignition sources (flares, flames, sparks, etc.). Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled materials. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
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 for cleaning up	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Use absorbent with inert material. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
Additional advice	Stop leak if without risk.

7. HANDLING AND STORAGE

Handling	Put on appropriate personal protective equipment (see section 8). 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 or smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breath vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
Storage	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. 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. Do not blanket or purge with an inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Consult local authorities for accepted exposure limits. OSHA PEL and ACGIH TWA are 5 mg/m^3 for Benzoyl Peroxide.

Exposure Guidelines

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering measures	Use only with adequate ventilation. 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.
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. Wash contaminated clothing before reusing or discard as necessary. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicated this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Eye 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. This may include, but is not limited to, safety glasses, goggles and face shields.
Skin 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. This equipment may include, but is not limited to, impervious gloves, gauntlets, impervious shoes/boots, and protective clothing. The breakthrough time of the selected protective glove(s), shoes, and clothing must be greater than the intended use period.
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. Environmental exposure controls may also include dikes or other liquid containment devices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid.	Auto-ignition temperature	N/A
Color	Black.	Odor threshold	N/A
Odor	Irritating.	Evaporation rate	N/A
Flammable Limits	N/A	Viscosity	15,000 cP
Relative vapor density	N/A	pH	N/A
Relative Density	0.98	Boiling point/range	N/A
Vapor Pressure	N/A	Flash point	N/A
Density at 70°F (21°C)	8.23 lbs/gal	Water solubility	Slight

10. STABILITY AND REACTIVITY

Stability	Stable when kept in original container, out of direct sunlight at temperatures below 80°F (27°C).
Conditions to avoid	Contamination, Direct sunlight, open flames, Prolonged storage about 100°F. Storage above SADT. Storage near flammable or combustible materials.
Materials to avoid	Dimethylaniline, cobalt naphthenate, and other promoters. Promoted resins, accelerators, oxidizing and reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot material.
Other hazards	Hazardous polymerization will not occur.
Hazardous decomposition products	Decomposition products may include the following materials: Carbon oxides, phenols, toxic fumes, various hydrocarbons

11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

Acute toxicity ingredient name			
	Benzoyl Peroxide		
	LD50 Oral	Rat	7710 mg/kg
	LD50 Dermal	Rabbit	>1000 mg/kg
	C_{9-11} Branched Alkyl Benzoate		
	LD50 Oral	Rat	>5000 mg/kg
	Zinc Stearate		
	LD50 Oral	Rat	>10000 mg/kg

Eye irritation/corrosion	Irritating to the eye.
Skin irritation/corrosion	Irritating to skin.
Inhalation	Breathing large amounts may be harmful.
Ingestion	Swallowing large amounts may be harmful.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity	No data is available on the product itself.
Toxicity to other organisms	No data available.

Persistence and degradability

Biodegradability	No data is available on the product itself.
Mobility	No data available.
Bioaccumulation	No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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 and local authority requirements. Avoid disposal of spilled material and runoff and contact with soil, waterways, drains and sewers. Dispose of contaminated containers, soils, etc. in compliance with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation. For complete transportation information, contact an Denso customer service representative.

Regulatory Information	UN/ID No.	Proper shipping name	Class or Division Packing group	Reportable Quantities
CFR	UN 3108	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE, <50%)	Class 5.2, PG II	
TDG	UN 3108	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE, <50%)	Class 5.2, PG II	
IMO/IMDG	UN 3108	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE, <50%)	Class 5.2, PG II	
IATA	UN 3108	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE, <50%)	Class 5.2, PG II	

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Components(s).
None.

OSHA Hazard Communication Standard (29 CFR 1910.1 200) Hazard Class(es)
Reactivity Hazard

Country	Regulatory List	Notification
USA	TSCA 8b	All components listed or exempted.
Canada	DSL	All components listed or exempted.
Australia	AICS	All components listed or exempted.
Japan	ENCS	All components listed or exempted.
South Korea	TCCL	All components listed or exempted.
Philippines	TSHNWCA	All components listed or exempted.
China	CIECS	All components listed or exempted.

HCS Classification Irritating material

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
Reactivity Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
None.

EPA SARA Title III Section 302 Extremely Hazardous Substances
None.

State regulations	Massachusetts RTK Substances - None required. New Jersey RTK Substances - None required. Pennsylvania RTK Substances - None required. California Proposition 65 - None of the chemicals known to be present or in reportable amounts ar known to the state of California to cause cancer or birth defects or other reproductive hazards as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.
WHMIS Hazard Classification (Canada)	Class D-2B: Material causing other toxic effects (Toxic).
Canadian lists	Canadian NPRI: None required.

16. OTHER INFORMATION

HMIS®

Health	1
Flammability	2
Physical hazard	2
Chronic	

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 MSDS's 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.

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