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Revision Date:11/28/2016
Supersedes Date: 03/18/2015

SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: SERVICE CEMENT

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Type: Adhesive Solvent
Product Name: **SERVICE CEMENT**
Part Number(s): 10-302, 10-310

Emergency Contact: Chemtrec
Phone: (800) 424-9300

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 :
FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H361 - Suspected of damaging fertility or the unborn child.
H336 - May cause drowsiness and dizziness.
H373 - May cause damage to organs through prolonged or repeated exposure.
H410 - Very toxic to aquatic life with long lasting effects.

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SECTION 2. HAZARDS IDENTIFICATION

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P260 - Do not breathe vapor.
P264 - Wash hands thoroughly after handling.

Response : P391 - Collect spillage.
P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage : P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

Product code : A919566

Ingredient name	%	CAS number
Ethyl acetate	30 - 60	141-78-6
Toluene	10 - 30	108-88-3
Isopropyl alcohol	10 - 30	67-63-0
Acetone	5 - 10	67-64-1
n-Butyl Acetate	5 - 10	123-86-4
Tris(Methylphenyl) phosphate	1 - 5	1330-78-5

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 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

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SECTION 4. FIRST AID MEASURES (CONT.)

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. If necessary, call a poison center or physician. 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 : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

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SECTION 4. FIRST AID MEASURES (CONT.)

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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.

See toxicological information (Section 11)

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet or water-based fire extinguishers.

Specific hazards arising from the chemical : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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SECTION 5. FIRE FIGHTING MEASURES (CONT.)

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

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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SECTION 6. ACCIDENTAL RELEASE MEASURES (CONT.)

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). 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.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). 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 breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

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SECTION 8. PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ethyl acetate	**ACGIH TLV (United States, 3/2015).** TWA: 1440 mg/m³ 8 hours. TWA: 400 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 1400 mg/m³ 10 hours. TWA: 400 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 1400 mg/m³ 8 hours. TWA: 400 ppm 8 hours.
Toluene	**NIOSH REL (United States, 10/2013).** STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 10 hours. TWA: 100 ppm 10 hours. **OSHA PEL Z2 (United States, 2/2013).** AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours. **ACGIH TLV (United States, 3/2015).** TWA: 20 ppm 8 hours.
Isopropyl alcohol	**ACGIH TLV (United States, 3/2015).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2013).** STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 10 hours. TWA: 400 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 980 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 1225 mg/m³ 15 minutes.
Acetone	**ACGIH TLV (United States, 3/2015).** STEL: 500 ppm 15 minutes. TWA: 250 ppm 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 590 mg/m³ 10 hours. TWA: 250 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 2400 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

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SECTION 8. PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION (CONT.)

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
n-Butyl Acetate	**OSHA PEL 1989 (United States, 3/1989).** TWA: 750 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 2400 mg/m³ 15 minutes. **ACGIH TLV (United States, 3/2015).** STEL: 200 ppm 15 minutes. TWA: 150 ppm 8 hours. **NIOSH REL (United States, 10/2013).** STEL: 950 mg/m³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 710 mg/m³ 10 hours. TWA: 150 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 150 ppm 8 hours. TWA: 710 mg/m³ 8 hours. STEL: 200 ppm 15 minutes. STEL: 950 mg/m³ 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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: chemical splash goggles.

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SECTION 8. PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION (CONT.)

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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 : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 55.556°C (132°F)

Flash point : Closed cup: -20°C (-4°F) [Tagliabue.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1.2%
Upper: 12.8%

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (CONT.)

Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	0.9644
Solubility	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Volatility	:	Not available.
VOC content	:	65.5 % (w/w)

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	:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Isopropyl alcohol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Acetone	LD50 Oral	Rat	5800 mg/kg	-
n-Butyl Acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Tris(Methylphenyl) phosphate	LD50 Dermal	Rabbit	>10000 mg/kg	-
	LD50 Oral	Rat	3 g/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit	-	870 µg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 µL	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
Isopropyl alcohol	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
Acetone	Eyes - Mild irritant	Human	-	186300 ppm	-
	Eyes - Mild irritant	Rabbit	-	10 µL	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	395 mg	-
n-Butyl Acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Tris(Methylphenyl) phosphate	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

Sensitization

There is no data available.

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SECTION 11. TOXICOLOGICAL INFORMATION (CONT.)

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Toluene	-	3	-	A4	-	-
Isopropyl alcohol	None.	3	-	A4	-	-
Acetone	-	-	-	A4	-	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Ethyl acetate	Category 3	Not applicable.	Narcotic effects
Toluene	Category 3	Not applicable.	Narcotic effects
Isopropyl alcohol	Category 3	Not applicable.	Narcotic effects
Acetone	Category 3	Not applicable.	Narcotic effects
n-Butyl Acetate	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression.

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SECTION 11. TOXICOLOGICAL INFORMATION (CONT.)

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure.

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Revision Date:11/28/2016
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Product Name: SERVICE CEMENT

SECTION 11. TOXICOLOGICAL INFORMATION (CONT.)

Carcinogenicity : No known significant effects or critical hazards.
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

Route	ATE value
Oral	4080.7 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethyl acetate	Acute EC50 2500000 µg/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 750000 µg/L Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 154000 µg/L Fresh water	Daphnia - Daphnia cucullata	48 hours
	Acute LC50 425300 µg/L Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 2400 µg/L Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 75.6 mg/L Fresh water	Fish - Pimephales promelas - Embryo	32 days
Toluene	Acute EC50 12500 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 11600 µg/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/L Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/L Fresh water	Daphnia - Daphnia magna	21 days
Isopropyl alcohol	Acute LC50 1400000 to 1950000 µg/L Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/L Fresh water	Fish - Rasbora heteromorpha	96 hours
Acetone	Acute EC50 20.565 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/L Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/L Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days

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SECTION 12. ECOLOGICAL INFORMATION (CONT.)

n-Butyl Acetate	Acute LC50 32000 µg/L Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 62000 µg/L	Fish - Danio rerio	96 hours
Tris(Methylphenyl) phosphate	Acute EC50 290 µg/L Fresh water	Algae - Stephanodiscus hantzschii - Exponential growth phase	96 hours
	Acute EC50 3600 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 170 µg/L Fresh water	Fish - Gasterosteus aculeatus	96 hours
	Chronic NOEC 0.32 µg/L Fresh water	Fish - Gasterosteus aculeatus - Egg	35 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethyl acetate	0.68	30	low
Toluene	2.73	90	low
Isopropyl alcohol	0.05	-	low
Acetone	-0.23	-	low
n-Butyl Acetate	2.3	-	low
Tris(Methylphenyl) phosphate	5.93	794.33	high

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 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 empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 13. DISPOSAL CONSIDERATIONS (CONT.)

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Ethyl acetate	141-78-6	Listed	U112
Toluene	108-88-3	Listed	U220
Acetone	67-64-1	Listed	U002

SECTION 14. TRANSPORT INFORMATION

	DOT Classification	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT. Marine pollutant (Tris (Methylphenyl) phosphate) RQ (Toluene, Ethyl acetate)	PAINT. Marine pollutant (Tris (Methylphenyl) phosphate)	PAINT
Transport hazard class(es)	3	3	3
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	No.
Additional information	This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. **Reportable quantity** 7575.8 lbs / 3439.4 kg [942.13 gal / 3566.4 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

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SECTION 14. TRANSPORT INFORMATION (CONT.)

AERG : 128

DOT-RQ Details	: Toluene	1000 lbs / 454 kg [137.86 gal / 521.84 L]
	Ethyl acetate	5000 lbs / 2270 kg [670.36 gal / 2537.6 L]

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 73/78 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: Toluene

Clean Water Act (CWA) 311: Toluene; n-Butyl Acetate

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) : Listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

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

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SECTION 15. REGULATORY INFORMATION (CONT.)

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Ethyl acetate	30 - 60	Yes.	No.	No.	Yes.	No.
Toluene	10 - 30	Yes.	No.	No.	Yes.	Yes.
Isopropyl alcohol	10 - 30	Yes.	No.	No.	Yes.	No.
Acetone	5 - 10	Yes.	No.	No.	Yes.	No.
n-Butyl Acetate	5 - 10	Yes.	No.	No.	Yes.	No.
Tris(Methylphenyl) phosphate	1 - 5	No.	No.	No.	No.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Toluene Isopropyl alcohol	108-88-3 67-63-0	10 - 30 10 - 30
Supplier notification	Toluene Isopropyl alcohol	108-88-3 67-63-0	10 - 30 10 - 30

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: Ethyl acetate; Nitrocellulose; Toluene; Isopropyl alcohol; n-Butyl Acetate; Acetone

New York : The following components are listed: Ethyl acetate; Toluene; n-Butyl Acetate; Acetone

New Jersey : The following components are listed: Ethyl acetate; Nitrocellulose; Toluene; Isopropyl alcohol; n-Butyl Acetate; Acetone; Tris(Methylphenyl) phosphate

Pennsylvania : The following components are listed: Ethyl acetate; Nitrocellulose; Toluene; Isopropyl alcohol; n-Butyl Acetate; Acetone

California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)

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SECTION 16. OTHER INFORMATION

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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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