



SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

Section 1: Product and Company Identification

Product Name:	Radnor Cold Galv Bright Finish (Aerosol)
Product Identifier:	Bright Zinc Primer
Product Use:	Repairs HOT-DIP Galvanizing with Bright Finish
Item Code(s):	64000131
SDS Code:	003R
Supplier:	Radnor
Physical Address:	259 North Radnor - Chester Road - Suite 100 Radnor, PA, 19087-5283
Emergency Phone:	866-734-3438
Date of Preparation:	June 4, 2007 (Revised September 26, 2018)
OSHA Defined Hazards:	Not Classified

Section 2: Hazard Identification

Physical Hazards

Flammable aerosols	Category 1
Gases under pressure	Liquefied Gas

Health Hazards

Acute toxicity, oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage / eye irritation	Category 2A
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Reproductive toxicity (the unborn child)	Category 2
Specific target organ toxicity, single exposure	Category 3 narcotic effects
Specific target organ toxicity, repeated exposure	Category 1

Environmental Hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA Defined Hazards

Not Classified	
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GHS Label elements, including precautionary statements



Appearance:

Physical State: Aerosol , Liquid Gas

Odor:

Emergency Overview

DANGER

Hazard Statements

H222	Extremely flammable aerosol
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H361d	Suspected of damaging the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

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
P211	Do not spray on an open flame or other ignition source
P251	Pressurized container: Do not pierce or burn, even after use
P260	Do not breathe mist or vapor
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
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
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
P330	Rinse mouth
P332 + P313	IF SKIN irritation occurs: Get medical advice/attention
P337 + P313	IF EYE irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P391	Collect spillage. Hazardous to the aquatic environment

Precautionary Statements - Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed
P405	Store locked up
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC): None

OTHER INFORMATION:

- 41.58% of the mixture consists of component(s) of unknown acute oral toxicity.
- 39.04% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.
- 39.04% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

Section 3: Composition and Information on Ingredients

CHEMICAL NAME	CAS #	%
ACETONE	67-64-1	30 to <40
PROPANE	74-98-6	10 to <20
ZINC	7440-66-6	10 to <20
N-BUTANE	106-97-8	5 to <10
PROPYLENE GLYCOL METHYL ETHER ACETATE	108-65-6	5 to <10
TOLUENE	108-88-3	5 to <10
ALUMINUM	7429-90-5	1 to <5
XYLENE	1330-20-7	1 to <5
ALIPHATIC HYDROCARBON	64742-82-1	0.1 to <1
ETHYLBENZENE	100-41-4	0.1 to <1
ZINC OXIDE	1314-13-2	0.1 to <1
Other components below reportable levels		1 to <5

Section 4: First Aid Measures

INHALATION: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

SKIN CONTACT: No adverse effects due to skin contact are expected. Remove contaminated clothing. Wash with plenty of soap and water.

IF SKIN IRRITATION OCCURS: Get medical advice/attention. Wash contaminated clothing before reuse.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. No specific first aid measures noted.

INGESTION: Not likely, due to the form of the product. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED: May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

GENERAL INFORMATION, IF EXPOSED OR CONCERNED: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

SUITABLE EXTINGUISHING MEDIA: Alcohol resistant foam. Water fog. Dry chemical powder. Dry sand. Carbon dioxide (CO₂).

UNSUITABLE EXTINGUISHING MEDIA: Do not use water jet as an extinguisher, as this will spread the fire.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

FIRE FIGHTING EQUIPMENT/INSTRUCTIONS: In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

SPECIFIC METHODS: Use standard fire fighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

GENERAL FIRE HAZARDS: Extremely flammable aerosol. Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Section 6: Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

SMALL SPILLS: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

Section 7: Handling and Storage

PRECAUTIONS FOR SAFE HANDLING: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breast-feeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Level 2 Aerosol. Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122°F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Secure cylinders in an upright position at all times, close all valves when not in use. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure Controls / Personal Protection

OCCUPATIONAL EXPOSURE LIMITS:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
ACETONE (CAS 67-64-1)	PEL	2400 mg/m ³ 1000 ppm	
ALUMINUM (CAS 7429-90-5)	PEL	5 mg/m ³ 15 mg/m ³	Respirable dust. Total dust.
ETHYLBENZENE (CAS 100-41-4)	PEL	435 mg/m ³ 100 ppm	
PROPANE (CAS 74-98-6)	PEL	1800 mg/m ³ 1000 ppm	
XYLENE (CAS 1330-20-7)	PEL	435 mg/m ³ 100 ppm	
ZINC OXIDE (CAS 1314-13-2)	PEL	5 mg/m ³ 5 mg/m ³ 15 mg/m ³	Respirable fraction. Fume. Total dust.

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
TOLUENE (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ACETONE (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
ALIPHATIC HYDROCARBON (CAS 64742-82-1)	TWA	100 ppm	
ALUMINUM (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
ETHYLBENZENE (CAS 100-41-4)	TWA	20 ppm	
N-BUTANE (CAS 106-97-8)	STEL	1000 ppm	
TOLUENE (CAS 108-88-3)	TWA	20 ppm	
XYLENE (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	
ZINC OXIDE (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
ACETONE (CAS 67-64-1)	TWA	590 mg/m ³ 250 ppm	
ALIPHATIC HYDROCARBON (CAS 64742-82-1)	Ceiling	1800 mg/m ³	
	TWA	5 mg/m ³	Welding fume or pyrophoric powder.
ALUMINUM (CAS 7429-90-5)		5 mg/m ³ 10 mg/m ³	Respirable. Total
ETHYLBENZENE (CAS 100-41-4)	STEL	545 mg/m ³ 125 ppm	
	TWA	435 mg/m ³ 100 ppm	
N-BUTANE (CAS 106-97-8)	TWA	1900 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
PROPANE (CAS 74-98-6)	TWA	800 ppm 1800 mg/m ³ 1000 ppm	
TOLUENE (CAS 108-88-3)	STEL TWA	560 mg/m ³ 150 ppm 375 mg/m ³ 100 ppm	
ZINC OXIDE (CAS 1314-13-2)	Ceiling STEL TWA	15 mg/m ³ 10 mg/m ³ 5 mg/m ³ 5 mg/m ³	Dust. Fume. Fume. Dust.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
PROPYLENE GLYCOL	TWA	50 ppm
METHYL ETHER ACETATE (CAS 108-65-6)		

BIOLOGICAL LIMIT VALUES:

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ACETONE (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
ETHYLBENZENE (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
TOLUENE (CAS 108-88-3)	0.3 mg/g 0.03 mg/l 0.02 mg/l	o-Cresol, with hydrolysis Toluene Toluene	Creatinine in urine Urine Blood	* * *
XYLENE (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

EXPOSURE GUIDELINES:

US - California OELs: Skin designation

PROPYLENE GLYCOL METHYL ETHER ACETATE (CAS 108-65-6) Can be absorbed through the skin.

TOLUENE (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

TOLUENE (CAS 108-88-3) Skin designation applies.

APPROPRIATE ENGINEERING CONTROLS: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Wear safety glasses with side shields (or goggles).

SKIN PROTECTION: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear appropriate chemical resistant clothing.

RESPIRATORY PROTECTION: If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

THERMAL HAZARDS: Wear appropriate thermal protective clothing, when necessary.

GENERAL HYGIENE CONSIDERATIONS: When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and Chemical Properties

<u>APPEARANCE:</u>	
Physical state	Liquid.
Form	Aerosol. Liquefied gas.
Color	Not available.
<u>ODOR:</u>	Not available.
<u>ODOR THRESHOLD:</u>	Not available.
<u>PH:</u>	Not available.
<u>MELTING POINT/FREEZING POINT:</u>	-305.68 °F (-187.6 °C) estimated
<u>INITIAL BOILING POINT AND BOILING RANGE:</u>	-43.78 °F (-42.1 °C) estimated
<u>FLASH POINT:</u>	-156.0 °F (-104.4 °C) estimated
<u>EVAPORATION RATE:</u>	Not available.
<u>FLAMMABILITY:</u> (solid, gas)	Not applicable.
<u>UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:</u>	
Flammability limit - lower (%)	1.3 % estimated
Flammability limit - upper (%)	12.8 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
<u>VAPOR PRESSURE:</u>	2200.03 hPa estimated
<u>VAPOR DENSITY:</u>	Not available.
<u>RELATIVE DENSITY:</u>	Not available.
<u>SOLUBILITY(IES):</u> Solubility (water)	Not available.
<u>PARTITION COEFFICIENT:</u> (n-octanol/water)	Not available.
<u>AUTO-IGNITION TEMPERATURE:</u>	550 °F (287.78 °C) estimated
<u>DECOMPOSITION TEMPERATURE:</u>	Not available.
<u>VISCOSITY:</u>	Not available.

Other information

<u>DENSITY:</u>	6.83 lbs/gal
<u>FLAMMABILITY CLASS:</u>	Flammable IA estimated
<u>HEAT OF COMBUSTION (NFPA 30B):</u>	26.89 kJ/g estimated
<u>PERCENT VOLATILE:</u>	81.72
<u>SPECIFIC GRAVITY:</u>	0.82
<u>VOC:</u>	5.0029416 lbs/gal Regulatory 380.852661 g/l Material 599.484616 g/l Regulatory 3.1783695 lbs/gal Material

Section 10: Stability and Reactivity

REACTIVITY: The product is stable and non-reactive under normal conditions of use, storage and transport.

CHEMICAL STABILITY: Material is stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization does not occur.

CONDITIONS TO AVOID: Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

INCOMPATIBLE MATERIALS: Strong acids. Acids. Strong oxidizing agents. Nitrates. Halogens. Fluorine. Chlorine.

HAZARDOUS DECOMPOSITION PRODUCTS: No hazardous decomposition products are known.

Section 11: Toxicological Information

INFORMATION ON LIKELY ROUTES OF EXPOSURE:

INHALATION: May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

SKIN CONTACT: Causes skin irritation.

EYE CONTACT: Causes serious eye irritation.

INGESTION: Harmful if swallowed.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: Headache. May cause drowsiness and dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

INFORMATION ON TOXICOLOGICAL EFFECTS:

ACUTE TOXICITY: Harmful if swallowed. Narcotic effects.

Components	Species	Test Results
ACETONE (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 15800 mg/kg
Inhalation		
LC50	Rat	76 mg/l, 4 Hours
Oral		
LD50	Mouse	3000 mg/kg
	Rat	5800 mg/kg
ALIPHATIC HYDROCARBON (CAS 64742-82-1)		
Acute		
Inhalation		
LC50	Rat	61 mg/l, 4 Hours
Oral		
LD50	Rat	> 25 ml/kg
ETHYLBENZENE (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	17800 mg/kg
Oral		
LD50	Rat	3500 mg/kg
N-BUTANE (CAS 106-97-8)		
Acute		
Inhalation		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
PROPANE (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442.847 mg/l, 15 Minutes
TOLUENE (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12124 mg/kg 14.1 ml/kg

Components	Species	Test Results
Inhalation LC50	Mouse	5320 ppm, 8 Hours 400 ppm, 24 Hours
	Rat	26700 ppm, 1 Hours 12200 ppm, 2 Hours 8000 ppm, 4 Hours
Oral LD50	Rat	2.6 g/kg
XYLENE (CAS 1330-20-7)		
Acute Dermal LD50	Rabbit	> 43 g/kg
Inhalation LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
Oral LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg
ZINC (CAS 7440-66-6)		
Acute Oral LD50	Rat	630 mg/kg
ZINC OXIDE (CAS 1314-13-2)		
Acute Inhalation LC50	Mouse	> 5.7 mg/l, 4 Hours
Oral LD50	Mouse	7950 mg/kg
	Rat	> 5 g/kg

* Estimates for product may be based on additional component data not shown.

SKIN CORROSION/IRRITATION: Causes skin irritation.

SERIOUS EYE DAMAGE/EYE IRRITATION: Causes serious eye irritation.

RESPIRATORY OR SKIN SENSITIZATION:

RESPIRATORY SENSITIZATION: Not a respiratory sensitizer.

SKIN SENSITIZATION: This product is not expected to cause skin sensitization.

GERM CELL MUTAGENICITY: May cause genetic defects.

CARCINOGENICITY: May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

ALIPHATIC HYDROCARBON (CAS 64742-82-1) 3 Not classifiable as to carcinogenicity to humans.

ETHYLBENZENE (CAS 100-41-4) 2B Possibly carcinogenic to humans.

TOLUENE (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.

XYLENE (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

REPRODUCTIVE TOXICITY: Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging the unborn child.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE: May cause drowsiness and dizziness.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE: Causes damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD: Not an aspiration hazard.

CHRONIC EFFECTS: Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Section 12: Ecological Information

ECOTOXICITY: Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
ACETONE (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
ALIPHATIC HYDROCARBON (CAS 64742-82-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 5.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.8 mg/l, 96 hours
			8.8 mg/l, 96 hours
ALUMINUM (CAS 7429-90-5)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.16 mg/l, 96 hours
ETHYLBENZENE (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
TOLUENE (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
XYLENE (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours
ZINC (CAS 7440-66-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.8 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.56 mg/l, 96 hours
ZINC OXIDE (CAS 1314-13-2)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2246 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

PERSISTENCE AND DEGRADABILITY: No data is available on the degradability of this product.

BIOACCUMULATIVE POTENTIAL:

Partition coefficient n-octanol / water (log Kow)

ACETONE	-0.24
ALIPHATIC HYDROCARBON	3.16 - 7.15
ETHYLBENZENE	3.15
N-BUTANE	2.89
PROPANE	2.36

Partition coefficient n-octanol / water (log Kow)

TOLUENE	2.73
XYLENE	3.12 - 3.2

MOBILITY IN SOIL: No data available.

OTHER ADVERSE EFFECTS: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13: Disposal Considerations

DISPOSAL INSTRUCTIONS: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

LOCAL DISPOSAL REGULATIONS: Dispose in accordance with all applicable regulations.

HAZARDOUS WASTE CODE: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

WASTE FROM RESIDUES / UNUSED PRODUCTS: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

CONTAMINATED PACKAGING: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section 14: Transportation Information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, 2.1
Class	Not available.
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, 2.1
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Forbidden.
Cargo aircraft only	Forbidden.

IMDG

UN number	UN1950
UN proper shipping name	Aerosols, flammable, 2.1
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

Section 15: Regulatory Information

US FEDERAL REGULATIONS: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

ACETONE (CAS 67-64-1)	Listed.
ETHYLBENZENE (CAS 100-41-4)	Listed.
N-BUTANE (CAS 106-97-8)	Listed.
PROPANE (CAS 74-98-6)	Listed.
TOLUENE (CAS 108-88-3)	Listed.
XYLENE (CAS 1330-20-7)	Listed.
ZINC (CAS 7440-66-6)	Listed.
ZINC OXIDE (CAS 1314-13-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - Yes
	Pressure Hazard - No
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

<u>Chemical name</u>	<u>CAS number</u>	<u>% by wt.</u>
ZINC	7440-66-6	10 to <20
TOLUENE	108-88-3	5 to <10
ALUMINUM	7429-90-5	1 to <5
XYLENE	1330-20-7	1 to <5
ETHYLBENZENE	100-41-4	0.1 to <1
ZINC OXIDE	1314-13-2	0.1 to <1

OTHER FEDERAL REGULATIONS:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

ETHYLBENZENE (CAS 100-41-4)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

N-BUTANE (CAS 106-97-8)
PROPANE (CAS 74-98-6)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

ACETONE (CAS 67-64-1)	6532
TOLUENE (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

ACETONE (CAS 67-64-1)	35 %WV
TOLUENE (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

ACETONE (CAS 67-64-1)	6532
TOLUENE (CAS 108-88-3)	594

US STATE REGULATIONS:

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.(a))

ACETONE (CAS 67-64-1)
ALIPHATIC HYDROCARBON (CAS 64742-82-1)
ALUMINUM (CAS 7429-90-5)
ETHYLBENZENE (CAS 100-41-4)
N-BUTANE (CAS 106-97-8)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)
ZINC (CAS 7440-66-6)

US. Massachusetts RTK - Substance List

ACETONE (CAS 67-64-1)
ALUMINUM (CAS 7429-90-5)
ETHYLBENZENE (CAS 100-41-4)
N-BUTANE (CAS 106-97-8)
PROPANE (CAS 74-98-6)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)
ZINC (CAS 7440-66-6)
ZINC OXIDE (CAS 1314-13-2)

US. New Jersey Worker and Community Right-to-Know Act

ACETONE (CAS 67-64-1)
ALUMINUM (CAS 7429-90-5)
ETHYLBENZENE (CAS 100-41-4)
N-BUTANE (CAS 106-97-8)
PROPANE (CAS 74-98-6)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)
ZINC (CAS 7440-66-6)
ZINC OXIDE (CAS 1314-13-2)

US. Pennsylvania Worker and Community Right-to-Know Law

ACETONE (CAS 67-64-1)
ALUMINUM (CAS 7429-90-5)
ETHYLBENZENE (CAS 100-41-4)
N-BUTANE (CAS 106-97-8)
PROPANE (CAS 74-98-6)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)
ZINC (CAS 7440-66-6)
ZINC OXIDE (CAS 1314-13-2)

US. Rhode Island RTK

ACETONE (CAS 67-64-1)
ALUMINUM (CAS 7429-90-5)
ETHYLBENZENE (CAS 100-41-4)
N-BUTANE (CAS 106-97-8)
PROPANE (CAS 74-98-6)
TOLUENE (CAS 108-88-3)
XYLENE (CAS 1330-20-7)
ZINC (CAS 7440-66-6)
ZINC OXIDE (CAS 1314-13-2)

US. California Proposition 65

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

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

ETHYL ALCOHOL (CAS 64-17-5)	Listed: April 29, 2011
	Listed: July 1, 1988
ETHYLBENZENE (CAS 100-41-4)	Listed: June 11, 2004
SILICA, CRYSTALLINE QUARTZ (CAS 14808-60-7)	Listed: October 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

ETHYL ALCOHOL (CAS 64-17-5)	Listed: October 1, 1987
TOLUENE (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

TOLUENE (CAS 108-88-3)	Listed: August 7, 2009
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International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16: Other Information

HMIS® ratings

Health: 2*
Flammability: 4
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 4
Instability: 0

N/E

Not Established

N/Av

Not Available

N/Ap

Not Applicable

IARC

International Agency for Research on Cancer

ACGIH

American Conference of Governmental Industrial Hygienists

NIOSH

National Institute for Occupational Health and Safety

TLV-TWA

Threshold Limit, Time Weighted Average

NAERG

North American Emergency Response Guidebook

WHMIS

Workplace Hazardous Materials Information System

This SDS format meets ANSI Z400.1-1998, OSHA 1910.1200 and WHMIS requirements. Radnor provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Product use and conditions of use are beyond the control of Radnor. Warranty of materials is limited to test results of product performance as detailed in certificates of compliance. Interpretation of test results is the responsibility of end-user. No other warranties, expressed or implied, are made.