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Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product name ZEP 45

Product use Aerosol. Lubricant

Product code 0174

Date of issue 07/16/14 **Supersedes** 08/11/11

Emergency Telephone Numbers

For MSDS Information:
Technical Services Group
Telephone (780) 453-8100
(Business Hours 8:00am - 5:00pm)

For Medical or Transportation Emergency
CANUTEC (24 Hours)
(613) 996-6666 - Call Collect

Prepared By
Technical Services Group
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Section 2. Hazards Identification

Emergency overview

CAUTION

CONTENTS UNDER PRESSURE.

Do not breathe vapor or mist. Contains material that may cause target organ damage, based on animal data. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Dermal contact. Eye contact. Inhalation.

Eyes Irritating to eyes. Inflammation of the eye is characterized by redness, watering and itching. Liquid in eye may cause irritation with possible damage if not rinsed immediately.

Skin Harmful in contact with skin. irritant, permeator. Non-sensitizer to skin. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering.

Inhalation Harmful by inhalation. Vapors and aerosol can produce mucous membrane, nose and throat irritation. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Can cause central nervous system (CNS) depression. Medical conditions aggravated by over-exposure: Respiratory, heart (cardiac).

Ingestion Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Chronic effects Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, spleen, peripheral nervous system, central nervous system (CNS). Defatting to the skin. Prolonged skin contact may cause dermatitis with drying and cracking of skin.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
TRICHLOROETHYLENE; acetylene trichloride; 1-chloro-2,2-dichloroethylene	79-01-6	30 - 60
CARBON DIOXIDE	124-38-9	1 - 5
BLEND OF AMYL ACETATE; 3-METHYL BUTYL ACETATE; 2-METHYL BUTYL ACETATE	628-63-7; 123-92-2; 624-41-9	1 - 5
DIETHYLENE GLYCOL MONOBUTYL ETHER; 2-(2-butoxyethoxy)-ethanol; butyl carbitol	112-34-5	1 - 5

Section 4. First Aid Measures

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

Skin Contact Flush affected 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. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. Cover the irritated skin with an emollient.

Inhalation Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Aspiration hazard if swallowed. Can enter lungs and cause damage. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flash Point Not applicable.

Flammable Limits Not applicable.

Flammability Not considered to be flammable. (CSMA)

Auto-ignition Temperature

Fire-Fighting Procedures Fire-fighters should wear appropriate protective equipment. Use dry chemical or CO_2.

Fire hazard In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed.

Products of Combustion Decomposition products may include the following materials:
carbonyl halides Hydrogen chloride (HCl). Chlorine. Phosgene gas.

Explosion hazard Not available.

Section 6. Accidental Release Measures

Spill Clean up Large spills are unlikely due to packaging.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wash thoroughly after handling.

Storage CONTENTS UNDER PRESSURE. Do not store above the following temperature: 49°C (120.2°F). Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Do not puncture or incinerate container. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name	Exposure limits
trichloroethylene	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 537 mg/m³ 15 minutes. 15 min OEL: 100 ppm 15 minutes. 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 269 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 4/2012).** TWA: 10 ppm 8 hours. STEL: 25 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2013).** TWA: 10 ppm 8 hours. STEL: 25 ppm 15 minutes. **CA Quebec Provincial (Canada, 12/2012).** TWAEV: 50 ppm 8 hours. TWAEV: 269 mg/m³ 8 hours. STEV: 200 ppm 15 minutes. STEV: 1070 mg/m³ 15 minutes.
Carbon dioxide	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 54000 mg/m³ 15 minutes. 8 hrs OEL: 5000 ppm 8 hours. 15 min OEL: 30000 ppm 15 minutes. 8 hrs OEL: 9000 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 4/2012).** TWA: 5000 ppm 8 hours. STEL: 15000 ppm 15 minutes. **CA Ontario Provincial (Canada, 1/2013).** TWA: 5000 ppm 8 hours.

	TWA: 9000 mg/m³ 8 hours. STEL: 30000 ppm 15 minutes. STEL: 54000 mg/m³ 15 minutes. **CA Quebec Provincial (Canada, 12/2012).** TWAEV: 5000 ppm 8 hours. TWAEV: 9000 mg/m³ 8 hours. STEV: 30000 ppm 15 minutes. STEV: 54000 mg/m³ 15 minutes.
Amyl Acteate Blend: 3-methyl butyl acetate & 2-methyl butyl acetate	**ACGIH TLV (United States).** TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.
2-(2-butoxyethoxy)ethanol	**ACGIH TLV (United States, 3/2012).** TWA: 10 ppm 8 hours. Form: Inhalable fraction and vapor

Personal Protective Equipment (PPE)

Eyes Recommended: Safety glasses.

Hands and Body Recommended: Chemical-resistant gloves. Neoprene Nitrile Rubber

Respiratory Recommended: Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Avoid breathing vapors, spray or mists.

Section 9. Physical and Chemical Properties

Physical State Aerosol. (Oily liquid.)

pH Not applicable.

Boiling Point 189°C (372.2°F)

Specific Gravity 1.095

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

Freezing Point

Color Clear. Brown.

Odor Sweet. (Strong.)

Vapor Pressure Not available.

Vapor Density Not available.

Evaporation Rate <1 (Carbon tetrachloride = 1)

VOC (Consumer) 50.0% 551 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

Hazardous Polymerization Will not occur.

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

Section 11. Toxicological Information

Carcinogenicity Not available.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
trichloroethylene	LC50 Inhalation Vapor	Rat	140700 mg/m³	1 hours
	LD50 Dermal	Rabbit	10000 mg/kg	-
	LD50 Oral	Mouse	2402 mg/kg	-
	LD50 Oral	Rat	4920 mg/kg	-
	LD50 Oral	Rat	4920 mg/kg	-
2-(2-butoxyethoxy)ethanol	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Mouse	2400 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
	LD50 Oral	Rat	5660 mg/kg	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Section 12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

Aquatic Ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
trichloroethylene	-	Acute EC50 95000 µg/l Marine water	Algae - Diatom - Skeletonema costatum	96 hours
	-	Acute EC50 36.5 mg/l Fresh water	Algae - Green algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	-	Acute LC50 20 mg/l Marine water	Crustaceans - Australian Barnacle - Elminius modestus	48 hours
	-	Acute LC50 18000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 3100 µg/l Fresh water	Fish - Flagfish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	-	Chronic EC10 12.3 mg/l Fresh water	Algae - Green algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	-	Chronic NOEC 1.384 mg/l Fresh water	Daphnia - Water flea - Daphnia magna	21 days
2-(2-butoxyethoxy)ethanol	-	Acute LC50 1300000 µg/l Fresh water	Fish - Bluegill - Lepomis macrochirus	96 hours

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with applicable regulations. Consult your local or regional authorities for additional information.

Waste Stream Hazardous waste.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	1950	Aerosols, non-flammable	2.2			**Explosive Limit and Limited Quantity Index** 1
IMDG Class						

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment. Limited Quantity: Small quantities of controlled goods are not regulated as Dangerous Goods according to TDG regulations.

PG* : Packing group

Section 15. Regulatory Information

Canada

WHMIS (Canada)

Class A: Compressed gas.
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16. Other Information

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