

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product Name: AR465
Synonyms: Diester based lubricant
Product Use: Synthetic lubricant

Supplier/Manufacturer: Permawick Company
255 E. Brown Street, Suite 100
Birmingham, Michigan 48009
Tel (248) 433-3500 Fax:(248) 594-3433

Emergency Phone Numbers:

(812) 376-0703 -- Monday - Friday, 8 am – 4:30 pm
(EST) Chemtrec 24 hr. : (800) 424-9300 (US and Canada)

Information Contacts: For technical information contact your sales representative.

Section 2. Composition / Information on Ingredients

Hazardous classification:

	CASRN	Percent (by wt.)	HAZARD
1. Diester based synthetic oil	Trade Secret	95 - 99	None note
2. Phenol, 4,4' methylene bis [2, 6-bis(1,1-dimethylethyl)-]	118-82-1	0.1 - 1.0	
3. N-Pheny-1-naphthylamine	90-30-2	0.1- 1.0	

See section 8 for Exposure Guidelines

Section 3. Hazards Identification

****Emergency Overview****

This compound is not an acute or physical hazard under normal conditions of use. Harmful if inhaled. Causes eye burns and skin irritation. Liquid and vapor are combustible.

Potential Health Effects, Signs and Symptoms of Exposure:

Inhalation: Irritation possible. Toxic and corrosive. Harmful if inhaled. May cause burns resulting in permanent damage. Over exposure may result in kidney and liver damage.

Ingestion: Harmful if swallowed. Aspiration into the respiratory system during ingestion or vomiting may result in mild to severe pulmonary injury.

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Corrosive. May cause permanent damage to mouth, throat, stomach if swallowed. If swallowing occurs, formaldehyde will cause violent vomiting and diarrhea which can lead to collapse.

Eye Contact: Irritating. Corrosive. May cause tearing, reddening, or swelling. May cause burns resulting in permanent eye damage.

Skin Contact: Prolonged or repeated contact may result in defatting, and/or drying of the skin which may lead to skin irritation and dermatitis, and may cause allergic skin reactions. May cause burns resulting in permanent damage.

Other chronic effects:

Suspected human carcinogen. According to animal testing, vapors may effect the kidney and liver. Formaldehyde gas is released in detectable quantities. Formaldehyde is an OSHA regulated carcinogen.

Section 4. First Aid Measures

FIRST AID

Eye Contact: Immediately flush eyes with plenty of water. If irritation develops or persists seek medical attention immediately, preferably from an ophthalmologist.

Ingestion: If victim is alert give a large quantity of water, egg whites, gelatin solution or large quantities of water to drink to dilute the product. Avoid alcohol. Call a physician immediately. DO NOT induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. If unconscious, take the affected person to a hospital.

Inhalation: If respiratory irritation or discomfort occur, or if person is overcome by exposure, remove to fresh air immediately. Get immediate medical attention and give oxygen or artificial respiration if necessary.

Skin Contact: Wash affected area immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and wash or discard clothing before reuse. If symptoms occur obtain medical attention immediately.

Other Notes: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be necessary.

Medical Conditions Aggravated by Exposure: None noted

Section 5. Fire Fighting Measures

Flash Point: 475 F.
D92

Method used: ASTM

Autoignition Point: Not available

Lower explosive limit: not available

Upper explosive limit: not available

Other Flammable Properties:

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Can burn and release carbon dioxide and carbon monoxide. Combustible and vapors can travel to the ignition source and cause flashback. Explosive mixtures may occur at or above the flash point.

Extinguishing Media:

Water mist or fog, agents approved for Class B hazards (e.g. dry chemical, carbon dioxide, foam, steam). Water or foam may cause frothing.

Fire Fighting Precautions and Procedure:

Firefighters should wear self - contained breathing apparatus (MSHA/NIOSH approved or equivalent) in the positive - pressure mode with full protective gear especially when there is the possibility of exposure to smoke, fumes or hazardous decomposition of products. Water spray carefully applied has frequently been used with success in extinguishing such fires by causing the frothing to occur only on the surface and this foaming action blankets and extinguishes the fire. (NFPA 325M - 1984)
Containers can build up pressure if exposed to heat (fire). Cool with water spray.

Section 6. Accidental Release Measures

Spill or Release Procedures:

Ventilate area. Prevent spreading by diking or ditching. Absorb spill with inert material and place in appropriate chemical waste container. Obey any federal, state, and local laws and regulations. Do not flush into sewers discharging into domestic water systems or natural waterways. Use personal protective equipment (Sec.8).
Extinguish all sources of ignition. Personnel must be equipped with eye protection before entering the area. Spilled material will cause a slippery surface. Avoid trips and falls.

Section 7 . Handling and Storage

Handling:

Thoroughly wash after handling and before eating, drinking, or using tobacco products. Use adequate ventilation and avoid breathing vapor or mist. Avoid contact with eyes, skin, clothing. Avoid ingestion. Keep away from heat, sparks, flames, and other sources of ignition. Ground and bond containers when transferring material. Use explosion - proof equipment.

Storage:

Do not store in open or unlabelled containers. Keep container tightly closed when not in use and during transport.
Store away from heat, sparks and flames or combustible material.

Section 8. Exposure Controls / Personal Protection

Exposure Limits:

Component Information		OSHA				ACGIH		
No.	Units	TWA	STEL	PEL		TWA	TLV	STEL
Diester lubricant	mg/m ³		5	5			5	5

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Formaldehyde ppm action level = 5

Carcinogens:

IARC: limited evidence (formaldehyde) NTP: formaldehyde gas
OSHA: formaldehyde

Engineering Controls:

Adequate ventilation must be provided. Vapors or mists generated by processing must be vented away from operating personnel and to control airborne levels below recommended exposure limits.

Personal Protective Equipment:

Eye / Face Protection: Use chemical splash goggles or ANSI Z.28 approved safety glasses with side shields or equivalent.

Skin Protection: Wear impermeable gloves to minimize skin contact.

Respiratory Protection: Where exposure is likely to exceed acceptable criteria, use NIOSH / OSHA approved respiratory equipment. Respirators should be selected based on the form and concentration of contaminant in air with OSHA concentration of contaminant in air and in accordance with OSHA (29 CFR 1910.134).

Other Protective Equipment:

In order to identify additional Personal Protective Equipment requirements, the recommendation is made that a hazard assessment in accordance with the OSHA PPE Standard (29 CFR 1910.132) be conducted before product use.

Work Practice controls:

1. Wash exposed skin promptly to remove any material.
2. Wash hands and face before consuming food, drinking, or before using tobacco products.
3. Do not store food, drink, tobacco products in the same area where the product is stored.

Section 9. Physical and Chemical Properties

Boiling Point : > 575 F
Pour Point : -65 F
Vapor Pressure : < 0.1 mm Hg @ 300 F.
Vapor Density (Air = 1) : heavier than air
Specific Gravity : 0.92
Density : see specific gravity
pH : Not available

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Viscosity : 313 SUS @ 100 F.
Evaporation Rate : slower than butyl acetate
Solubility in water : Negligible
Appearance and color : Light amber clear liquid
Odor : Mild odor

Section 10. Stability and Reactivity

Stability: Stable under normal storage conditions.

Hazardous Polymerization: Will not occur during normal conditions.

Conditions to avoid: Temperature conditions which induce thermal decomposition.

Material Incompatibility: Oxidizing materials.

Hazardous Decomposition Products: Carbon dioxide/carbon monoxide.

Section 11. Toxicological Properties

Inhalation: LC50 (rat): > 20,000 ppm

Ingestion: LD50 (rats): > 5 ml/kg

Eye Contact: Irritating

Skin Contact: LD50 (rabbit): > 5 gm/kg

Chronic Toxicity: Not available.

Other Toxicological Information: None available.

The nominal inhalation toxicity (rat, 4 hr.) for an aerosol of NUOSEPT 145 is 4.12 mg/l.

The analytical is 0.13 mg/l Oral LD50 (rat, F): 1620 mg/kg

Oral LD50 (rat, M): 1950 mg/kg

Section 12. Ecological Information

Ecological Fate: No data available.

Environmental Effects: No data available.

Section 13. Disposal Considerations

Disposal Method: All recovered material should be packaged, labelled, transported, and disposed or reclaimed in accordance with federal, state and local regulations.

Container Disposal: Triple rinse. Offer for recycling or reconditioning or puncture and dispose of in sanitary landfill. The wastes of this product are acutely hazardous. Improper disposal of excess product, spray mixture, or rinsate is a violation for federal law. If wastes cannot be disposed of according to suggested method, contact

your provincial or regional office of the Ministry of the
Environment for guidance.

Section 14. Transportation Information

U.S. Department of Transportation: DOT proper shipping name: Not regulated.

Section 15. Regulatory Information

U.S. Federal Regulations

OSHA:

Preparation of this document is in accordance with the MSDS requirements of the OSHA Hazard Communication Standard.

SARA Section 311 / 312: Hazard classification: none noted

SARA Section 313:

This product contains no chemical requiring annual Toxic Chemical Release Reporting under Section 313.

TSCA:

Section 8 (b): Inventory:

All functional components of this product are listed in the TSCA inventory.

Section 12 (b): Export Notification:

This product does not contain any substances subject to export notification under Section 12 (b) of TSCA.

CERCLA Hazardous Materials: Not determined.

RCRA: Not determined.

CDSL: Canadian Inventory

All the chemicals in this product are listed on the DSL and the Canadian Environmental Protection Act (CEPA) provisional domestic substance list.

WHMIS:

This product is not a "controlled product" as defined by the Canadian Workplace Hazardous Materials Information System.

State Regulations

California Proposition 65:

This product is not known to contain any chemicals known to the state of California to cause cancer or birth defects. However, we do not conduct routine analysis for all listed materials.

Section 16. Other Information

HMIS Rating System: Health = 1 Flammability = 1 Reactivity = 0
Ratings key: 4 = Highest hazard , 0 = Lowest hazard, * = Chronic Health Hazard

Revision summary:

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This is the first issue of this MSDS in the ANSI Z400.1 - 1993 format -

Approval date: 01/30/97

Supersedes: 09/01/89

This information presented herein is believed to be factual as it has been derived from works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as warranty or representation for which Permawick bears legal responsibility. Any recommendations should be reviewed by the user in the specific context of the intended use to determine whether they are appropriate.

ACGIH:	American Conference of Governmental Industrial Hygienists
ANSI:	American National Standards Institute
CERCLA:	Comprehensive Emergency Response, Compensation and Liability Act
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
OSHA:	Occupational Health and Safety Administration
NTP:	National Toxicology Program
PEL:	OSHA Permissible Exposure Limit
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund /amendment Reauthorization Act
STEL:	Short Term Exposure Limit
TLV:	Threshold Limit Values
TSCA:	Toxic Substances Control Act