



SAFETY DATA SHEET

SDS: 1601

1601 DUOLEC® VARI-PURPOSE GEAR LUBRICANT

Issuing Date 04-24-2012

Revision Date 05-23-2013

Revision Number 6

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier**Product Name**

1601 DUOLEC® VARI-PURPOSE GEAR LUBRICANT

Other means of identification**Synonyms**

No information available

Recommended use of the chemical and restrictions on use**Identified uses**

Lubricant

Details of the supplier of the safety data sheet**Manufacturer**

Lubrication Engineers Inc.
300 Bailey Avenue
Fort Worth, TX 76107
USA
(817) 916-3200

Emergency telephone number

CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

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2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements

Emergency Overview

Signal Word

None

The product contains no substances which at their given concentration, are considered to be hazardous to health

appearance purple

Physical state liquid

Odor Hydrocarbon-like

Precautionary Statements - Prevention

None.

Response

None.

Eyes

None.

Skin

None.

Inhalation

None.

Ingestion

None.

Fire

None.

Spill

None.

Storage

None.

Disposal

None.

Hazards not otherwise classified (HNOC)

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Amines, C12-14-alkyl, reaction products	91745-46-9	1 - 5

The producer of "1601" declares that it contains less than 3% DMSO extractable material by IP-346

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4. FIRST AID MEASURES

First Aid Measures

General Advice	If symptoms develop move victim to fresh air. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray.
Eye Contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
Skin Contact	Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. Consult a physician. If not breathing, give artificial respiration.
Ingestion	May cause adverse kidney effects. Drink plenty of water. Do NOT induce vomiting.
Protection of First-aiders	Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Symptoms None known.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

<u>Flash Point</u>	200 °C / 392 °F
<u>Suitable Extinguishing Media</u>	Water spray, Carbon dioxide (CO2), Foam, Dry chemical
<u>Unsuitable Extinguishing Media</u>	Do not use a solid water stream as it may scatter and spread fire.
<u>Specific Hazards Arising from the Chemical</u>	Thermal decomposition can lead to release of irritating gases and vapors.
<u>Explosion Data</u>	
<u>Sensitivity to Mechanical Impact</u>	Not impact sensitive.
<u>Sensitivity to Static Discharge</u>	May be ignited by friction, heat, sparks or flames.
<u>Protective Equipment and Precautions for Firefighters</u>	Wear self-contained breathing apparatus and protective suit.

NFPA**Health Hazard 1****Flammability 1****Instability 1**

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Do not touch or walk through spilled material. Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for Cleaning up Use personal protective equipment. Dam up. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent vapor buildup by providing adequate ventilation during and after use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible products. Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
White Mineral Oil 8042-47-5	TWA: 5 mg/m ³	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³	IDLH: 2500 mg/m ³ TWA: 5 mg/m ³ STEL: 10 mg/m ³
Naphthalene 91-20-3	STEL 15 ppm TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³

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Benzene 71-43-2	STEL: 2.5 ppm TWA: 0.5 ppm S*	TWA: 10 ppm TWA: 1 ppm (vacated) TWA: 10 ppm (vacated) STEL: 50 ppm (vacated) Ceiling: 25 ppm Ceiling: 25 ppm STEL: 5 ppm	IDLH: 500 ppm TWA: 0.1 ppm STEL: 1 ppm
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Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Long sleeved clothing. Protective gloves.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid
appearance	purple
Odor	Hydrocarbon-like
Odor Threshold	No information available
pH	6 - 8
Melting point/freezing point	No data available
Boiling Point/Range	no data available
Flash Point	200 °C / 392 °F
Vapor pressure	No data available
Vapor Density	< 1 (Air = 1)
Specific Gravity	0.87
Water solubility	negligible
Partition Coefficient: n-octanol/water	no data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity, kinematic	45 cSt @ 40°C

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10. STABILITY AND REACTIVITY

reactivity	No information available
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Heat, flames and sparks. Contact with other chemicals
Incompatible Materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke)

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information
Inhalation	May cause irritation of respiratory tract.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	May cause irritation.
Ingestion	There is no data available for this product.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Amines, C12-14-alkyl, reaction products 91745-46-9	> 10000 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	No information available.

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Reproductive toxicity No information available.

Target Organ Effects Respiratory system, Eyes, Skin.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 4631 mg/kg

ATEmix (dermal) 5299 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	NA	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to daphnia and other aquatic invertebrates
Amines, C12-14-alkyl, reaction products 91745-46-9	-	LC50 16 - 26 mg/L Pimephales promelas 96 h	-	LC50 < 1 mg/L 96 h

Persistence and Degradability No information available.

Bioaccumulation No information available.

Mobility The product is insoluble and floats on water.

Chemical Name	Log Pow
Lubricating oils (petroleum), C>25, hydrotreated bright stock-based 72623-83-7	>6
White Mineral Oil 8042-47-5	>6
Naphtha (petroleum), heavy aromatic 64742-94-5	2.9 - 6.1
Naphthalene 91-20-3	3.3
Benzene 71-43-2	1.83

Other Adverse Effects No information available.

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Dispose of in accordance with local regulations.

Contaminated Packaging

Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145 Included in waste stream: K022		
Benzene 71-43-2	U019	Included in waste streams: F005, F024, F025, F037, F038, F039, K085, K104, K105, K141, K142, K143, K144, K145, K147, K151, K159, K169, K171, K172	0.5 mg/L regulatory level	Ignitable waste, Toxic waste

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3			Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

This product contains one or more substances that are listed with the State of California as a hazardous waste

Chemical Name	California Hazardous Waste Status
Naphthalene 91-20-3	Toxic
Benzene 71-43-2	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

Not regulated

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15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Not determined
NDSL	Not determined
EINECS	Not determined
ELINCS	Not determined
ENCS	Not determined
IECSC	Not determined
KECL	Not determined
PICCS	Not determined
AICS	Not determined

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Naphthalene - 91-20-3	91-20-3	0.0004	0.1
Benzene - 71-43-2	71-43-2	1.01309e-005	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

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Benzene 71-43-2	10 lb	X	X	X
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CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Naphthalene 91-20-3	100 lb 1 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
Benzene 71-43-2	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Naphthalene - 91-20-3	Carcinogen
Benzene - 71-43-2	Carcinogen Developmental Male Reproductive

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Issuing Date 04-24-2012
Revision Date 05-23-2013
Reason for revision No information available
Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet