



Safety Data Sheet

DIESELEX GOLD ULS

MSDS no.

DIESELEX GOLD ULS - PEP

1. Product and company identification

Product use Petrochemical industry: Fuel additive.

Date of issue/Revisions 29 May 2014

In case of emergency - Chemical

+1-703-527-3887 (International)
+65-3158-1349 (Asia Pacific)
+61-290372994 (Australia)
+32-28083237 (Belgium)
4001-204937 (China)
+385-17776920 (Croatia)
000-800-100-7141 (India)
+81-345209637 (Japan)
00-308-13-2549 (South Korea)
+1-703-741-5979 (Spanish language)
+44-870-8200418 (UK)
1-800-424-9300 (US & Canada)

Manufacturer / Supplier

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2. HAZARDS IDENTIFICATION

Notice to reader

Afton operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

Europe: The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Australia: HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Primary hazards and critical effects : Warning
HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
MAY CAUSE ALLERGIC SKIN REACTION.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
ASPIRATION HAZARD IF SWALLOWED.

Physical/chemical hazards : COMBUSTIBLE. - United States and Canada
VAPOR MAY CAUSE FLASH FIRE.
When heated above 100°C/212°F may undergo a self-accelerating, exothermic reaction which causes a rapid rise in temperature and pressure. Rupture of storage vessels and fire should be anticipated in case of such temperature.

Environmental hazards : Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Hazardous Material Information System (U.S.A.)

Health	2
Fire hazard	2
Reactivity	1

3. Composition/information on ingredients

Note: see section 8 for occupational exposure limits and section 11 for LC50/LD50 information.

Substance/Preparation :

<u>Ingredient name</u>	<u>CAS no.</u>	<u>Conc. (% w/w)</u>	<u>EU Classification</u>	<u>WHMIS Regulated?</u>
2-Ethylhexyl nitrate	27247-96-7	60 - 100	R44 Xn; R20/21/22 R66 N; R51/53	Yes.
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	10 - 19.9	Xn; R65 R66, R67 N; R51/53	Yes.
Long chain alkenyl heterocycle	Proprietary	1 - 4.9	Not classified.	Yes.
Benzene, 1,2,4-trimethyl-	95-63-6	1 - 4.9	R10 Xn; R20 Xi; R36/37/38 N; R51/53	Yes.
Solvent naphtha (petroleum), light aromatic	64742-95-6	1 - 4.9	R10 Xn; R65 Xi; R37 R66, R67 N; R51/53	Yes.
Alkyl arylamine	Proprietary	1 - 4.9	Xn; R22 C; R35 R43 N; R50	Yes.
Alkyl phenol	Proprietary	1 - 4.9	Xi; R38 N; R50/53	Yes.
Naphthalene	91-20-3	1 - 4.9	Carc. Cat. 3; R40 Xn; R22 N; R50/53	Yes.
Benzene, 1,3,5-trimethyl-	108-67-8	0.5 - 0.99	R10 Xi; R37 N; R51/53	Yes.
Alkyl phenol	Proprietary	0.1 - 0.5	Xn; R22 C; R34 N; R51/53	Yes.
N-Propylbenzene	103-65-1	0.1 - 0.5	R10 Xn; R65 Xi; R37 N; R51/53	Yes.
Cumene	98-82-8	0.1 - 0.5	R10 Xn; R65 Xi; R37 N; R51/53	Yes.

4. First aid measures

Inhalation	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	: Get immediate medical attention. If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. If medical attention is not available within one hour of ingestion, induce vomiting by sticking finger down throat.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.
Eye contact	: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Notes to medical doctor	: If ingestion has occurred within the past one hour, protect the airway and perform gastric lavage followed by the administration of activated charcoal. If greater than one hour since ingestion, protect the airway as needed and administer activated charcoal.

5. Fire-fighting measures

Extinguishing media	: In case of fire, use water spray (fog), foam, dry chemical or CO ₂ .
Fire-fighting procedures	: Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. When heated above 100°C/212°F may undergo a self-accelerating, exothermic reaction which causes a rapid rise in temperature and pressure. Rupture of storage vessels and fire should be anticipated in case of such temperature. Spray storage vessels with water to maintain temperature below 100°C/212°F.

Fire/explosion hazards	: COMBUSTIBLE. - United States and Canada VAPOR MAY CAUSE FLASH FIRE. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
Hazardous decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Flash point	: Closed cup: 62°C (143.6°F) [Pensky-Martens.]

6. Accidental release measures

Personal precautions	: Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5). Do not touch or walk through spilled material.
Environmental precautions and clean-up methods	: If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways.

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling	: Avoid contact with eyes, skin or clothing. Keep containers sealed until ready for use. Do not heat the product. Keep away from heat, sparks and flame. Use only with adequate ventilation. A vapor recovery system should be used when packaging this product. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling. Product Transfer: Do not heat the product. Prior to starting transfer pump, ensure all valves in the product discharge line are open and that the line is unobstructed. Immediately after starting the transfer pump, verify that the product is flowing. If product is not flowing, shut the pump off immediately. Operating the transfer pump in a dead-headed (blocked) condition without product flow can result in an explosion damaging equipment and causing personal injury. A pneumatic driven diaphragm pump or pumps of other designs equipped with high temperature (75 degs. C) shut-off devices are recommended when pumps are provided at fixed locations.
Storage	: Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not heat the product. Warehouses equipped with fire suppression systems are recommended. This product should not be stored in the same area with tanks containing flammable liquids. Fire suppression systems should be adequate to keep product cool in the event of a fire. Refer to "Safety and Handling Manual for 2-Ethylhexyl Nitrate" for further information on safety and handling concerns and procedures (available from Afton Corporation).

8. Exposure controls/personal protection

Engineering controls	: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
Personal protective equipment	
Respiratory system	: Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s). (Approved/certified respirator with organic vapor cartridge.)
Skin and body	: Where contact is likely, wear chemical resistant gloves, a chemical resistant suit, and boots. Additional body garments should be used based upon the task being performed.
Hands	: Hand Protection: Wear chemical resistant gloves. Nitrile gloves of minimum thickness 0.4 mm have an expected breakthrough time of 120 minutes or less when in frequent contact with the product. Due to variable exposure conditions the user must consider that the practical use of a chemical-protective glove in practice may be much shorter than the permeation time above. Manufacturer's directions for use, especially about the minimum thickness and the minimum breakthrough time, must be observed. This information does not replace suitability tests by the end user since glove protection varies depending on the conditions under which the product is used.
Eyes	: Safety glasses with side shields. Goggles with a face shield may be necessary depending on quantity of material and conditions of use.

Occupational exposure limits

<u>Ingredient name</u>	<u>OEL United States</u>	<u>OEL Canada</u>	<u>OEL Europe</u>	<u>OEL Australia</u>
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1) 2-Ethylhexyl nitrate	Afton (United States). TWA: 1 ppm 8 hour (s).	Afton (Canada). TWA: 1 ppm 8 hour (s).	Afton (Europe). TWA: 1 ppm 8 hour (s).	Afton (Australia). TWA: 1 ppm 8 hour (s).
2) Solvent naphtha (petroleum), heavy aromatic	OSHA (United States). TWA: 500 ppm 8 hour(s). TWA: 2000 mg/m ³ 8 hour(s).	OSHA (United States). TWA: 500 ppm 8 hour(s). TWA: 2000 mg/m ³ 8 hour(s).	OSHA (United States). TWA: 500 ppm 8 hour(s). TWA: 2000 mg/m ³ 8 hour(s).	OSHA (United States). TWA: 500 ppm 8 hour(s). TWA: 2000 mg/m ³ 8 hour(s).
3) Benzene, 1,2,4-trimethyl-	ACGIH (United States, 1999). TWA: 25 ppm	(Canada). TWA: 25 ppm	EH40 (UK) (Europe). TWA: 25 ppm	ACGIH (United States, 1999). TWA: 25 ppm
4) Naphthalene	ACGIH TLV (United States). Absorbed through skin. TWA: 10 ppm STEL: 15 ppm OSHA PEL (United States). TWA: 10 ppm	ACGIH TLV (United States). Absorbed through skin. TWA: 10 ppm STEL: 15 ppm	ACGIH TLV (United States). Absorbed through skin. TWA: 10 ppm STEL: 15 ppm	ACGIH TLV (United States). Absorbed through skin. TWA: 10 ppm STEL: 15 ppm

9. Physical and chemical properties

Physical state and Appearance	: Liquid.
Density	: Not determined.
Specific gravity	: 0.9538 @ 15°C
Solubility	: Insoluble in the following materials: cold water.
Viscosity	: Not determined.
Auto-ignition temperature	: Not determined.
Flash point	: Closed cup: 62°C (143.6°F) [Pensky-Martens.]

10. Stability and reactivity

Stability	: Unstable at temperatures greater than 100°C/212°F.
Materials to avoid	: Strong oxidizing and reducing agents.
Conditions to avoid	: High temperatures, sparks, and open flames.

11. Toxicological information

Routes of entry	: Skin, Eyes, Ingestion, and Inhalation.
Target organs	: Contains material which causes damage to the following organs: lungs, skin, eyes. Contains material which may cause damage to the following organs: blood, kidneys, liver, spleen, gastrointestinal tract, cardiovascular system, upper respiratory tract, central nervous system (CNS).
Acute effects	
Inhalation	: Harmful by inhalation. Irritating to respiratory system. Does not meet EU R37 classification criteria.
Ingestion	: Harmful if swallowed. Harmful: may cause lung damage if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion may cause gastrointestinal irritation and diarrhea.
Skin contact	: Harmful if absorbed through the skin. Irritating to skin. May cause skin sensitization. Overexposure to organic nitrates by inhalation of vapor or skin contact may cause headache, dizziness, nausea, and decreased blood pressure.
Eye contact	: Irritating to eyes.

Adverse effects

- : - Adverse symptoms may include the following:: Overexposure to organic nitrates by inhalation of vapor or skin contact may cause headache, dizziness, nausea, and decreased blood pressure.
- Adverse symptoms may include the following:: This product contains trimethylbenzene. Literature data indicate that long-term inhalation exposure causes blood effects in laboratory animals.
- Adverse symptoms may include the following:: In the presence of slight maternal toxicity, fetotoxic effects have been observed in the offspring of rats exposed by inhalation to Solvent Naphtha (petroleum) light aromatic.
- Adverse symptoms may include the following:: This product contains phenylenediamine (PDA). Repeated exposure to PDA has been shown to cause liver effects in laboratory animals.
- Adverse symptoms may include the following:: This product contains a component that has been shown to cause blood clotting impairment
- Adverse symptoms may include the following:: This product contains naphthalene. Naphthalene exposure may cause severe dermatitis in sensitized persons. Ingestion of naphthalene has caused hemolysis in humans deficient in glucose-6-phosphate dehydrogenase. Adverse effects could include liver and kidney abnormalities and corneal ulcerations and cataracts. This product contains naphthalene. A National Toxicology Program (NTP) final report states that lifetime inhalation exposure to naphthalene resulted in increases in nose tumors in rats and lung tumors in female mice.

Product/ingredient name

ACGIH

IARC

EPA

NIOSH

NTP

OSHA

EU

Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
2-Ethylhexyl nitrate	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>10000 mg/kg	-
Solvent naphtha (petroleum), heavy aromatic	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2500 mg/kg	-
	LC50 Inhalation	Rat	>11.67 mg/m ³	6 hours
	Vapor			
Benzene, 1,2,4-trimethyl-	LD50 Dermal	Rabbit	3160 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Oral	Rat	3400 to 6000 mg/kg	-
	LC50 Inhalation	Rat	18000 mg/m ³	4 hours
	Vapor			
Solvent naphtha (petroleum), light aromatic	LD50 Oral	Rat	8400 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Oral	Rat	2900 mg/kg	-
Alkyl arylamine	LD50 Dermal	Rabbit	2806 mg/kg	-
	LD50 Oral	Rat	148 mg/kg	-
	LC50 Inhalation	Rat	>0.2 mg/l	6 hours
	Vapor			
Alkyl phenol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Naphthalene	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-

Other information

: Not available.

12. Ecological information





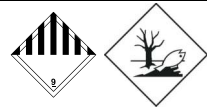

Environmental hazards : Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Based on calculation.

Environmental fate : This product contains components which may be persistent in the environment.

13. Disposal considerations

Waste handling and disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	NA1993	Combustible liquids, n.o.s. (2-Ethylhexyl nitrate). Marine pollutant (2-Ethylhexyl nitrate, 2,6-Di-tert-butylphenol)	Combustible liquid.	III		- Marine pollutant
TDG Classification	UN3082	Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate; 2,6-Di-tert-butylphenol). Marine pollutant	9	III		-
ADR/RID Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate; 2,6-Di-tert-butylphenol)	9	III		Hazard identification number 90 Tunnel code (E)
IMDG Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate; 2,6-Di-tert-butylphenol). Marine pollutant	9	III		- Marine pollutant
IATA-DGR Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate; 2,6-Di-tert-butylphenol)	9	III		-
ADG Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate; 2,6-Di-tert-butylphenol)	9	III		-

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

15. Regulatory information

EU regulations

Hazard symbol(s)

:



Harmful, Dangerous for the environment

Risk phrases

:

R40- Limited evidence of a carcinogenic effect.
 R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
 R65- Harmful: may cause lung damage if swallowed.
 R36/38- Irritating to eyes and skin.
 R43- May cause sensitization by skin contact.
 R44- Risk of explosion if heated under confinement.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

:

S15- Keep away from heat.
 S23- Do not breathe vapor.
 S24/25- Avoid contact with skin and eyes.
 S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
 S57- Use appropriate containment to avoid environmental contamination.

Contains

:

2-Ethylhexyl nitrate
 Alkyl arylamine
 Naphthalene

248-363-6

202-049-5

US regulations

SARA 313 toxic chemical notification and release reporting (w/w%)	: Benzene, 1,2,4-trimethyl-Naphthalene BENZO[A]PYRENE	1 - 4.9 1 - 4.9 0 - 0.1
SARA 311/312 Hazardous Categorization	: SARA 311/312 MSDS distribution - chemical inventory - hazard identification : reactive, Immediate (acute) health hazard; Fire hazard, Delayed (chronic) health hazard	
RQ (Reportable quantity)	: CERCLA: Hazardous substances.: Xylene: 100 lbs. (45.4 kg); Benzene: 10 lbs. (4.54 kg); Toluene: 1000 lbs. (454 kg); Naphthalene: 100 lbs. (45.4 kg); Benzo[a]pyrene: 1 lb. (0.454 kg); Ethylbenzene: 1000 lbs. (454 kg); Cumene: 5000 lbs. (2270 kg); STYRENE: 1000 lbs. (454 kg); P-XYLENE: 100 lbs. (45.4 kg); NITRIC ACID: 1000 lbs. (454 kg); Phenol: 1000 lbs. (454 kg);	
State - California Prop. 65	: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Naphthalene Cumene Ethylbenzene Toluene Benzene BENZO[A]PYRENE	
EPA Significant New Use Rule (SNUR)	: This product contains a substance that has been issued a non-5(e) Significant New Use Rule (SNUR). Please contact company for details.	
Canadian regulations		
WHMIS (Classification)	: Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic). Class F: Dangerously reactive material.	
Canada Significant New Activity Notice	: This product contains a substance that is the subject of a Significant New Activity (SNAc) notice under CEPA.	

International Inventory Status

United States inventory (TSCA 8b)	: All components are listed or exempted.
Canada inventory	: All components are listed or exempted.
Europe inventory	: All components are listed or exempted.
Japan inventory (ENCS)	: At least one component is not listed.
Australia inventory (AICS)	: At least one component is not listed.
Korea inventory (KECI)	: At least one component is not listed.
China inventory (IECSC)	: At least one component is not listed.
Philippines inventory (PICCS)	: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	: At least one component is not listed.

16. Other information**PREPARATION INFORMATION**

Validated by HS&E Department (Tel: +1 804 788 5800) on 5/29/2014.

Date of printing : 5/29/2014.

 Indicates information that has changed from previously issued version.**Notice to reader**

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

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Full text of R-phrases appearing in section 3:

- : R10- Flammable.
R44- Risk of explosion if heated under confinement.
R40- Limited evidence of a carcinogenic effect.
R20- Harmful by inhalation.
R22- Harmful if swallowed.
R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R65- Harmful: may cause lung damage if swallowed.
R34- Causes burns.
R35- Causes severe burns.
R37- Irritating to respiratory system.
R38- Irritating to skin.
R36/38- Irritating to eyes and skin.
R36/37/38- Irritating to eyes, respiratory system and skin.
R43- May cause sensitization by skin contact.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapors may cause drowsiness and dizziness.
R50- Very toxic to aquatic organisms.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

*** END OF MSDS ***