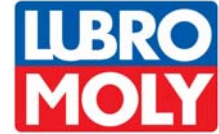


Material Safety Data Sheet

Diesel Purge



1. Product and company identification

Product name	: Diesel Purge
Material uses	: System cleaner for vehicle fuel units (diesel engines)
Supplier/Manufacturer	: LIQUI MOLY GmbH Jerg-Wieland-Strasse 4 D-89081 Ulm-Lehr Germany Tel.: +49(0)731 / 1420-0 Fax: +49(0)731 / 1420-88
Code	: 2005
Validation date	: 08/24/2009
Responsible name	: Chemical Check GmbH
In case of emergency	: +49(0)731 / 1420-0

2. Hazards identification

Physical state	: Liquid.
Odor	: Characteristic.
Emergency overview	: WARNING! COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. Combustible liquid. Harmful by inhalation and in contact with skin. Moderately irritating to the eyes and skin. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not get in eyes or on skin or clothing. 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. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Potential acute health effects	
Inhalation	: Toxic by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: No known significant effects or critical hazards.
Skin	: Toxic in contact with skin. Moderately irritating to the skin.
Eyes	: Moderately irritating to eyes.
Potential chronic health effects	
Chronic effects	: Contains material that may cause target organ damage, based on animal data.
Carcinogenicity	: Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: Contains material which may cause damage to the following organs: lungs.
Over-exposure signs/symptoms	
Inhalation	: No specific data.
Ingestion	: No specific data.

2. Hazards identification

- Skin** : Adverse symptoms may include the following:
irritation
redness
- Eyes** : Adverse symptoms may include the following:
irritation
watering
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Canada			
Name	CAS number	%	
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	60-100	
2-Ethylhexyl nitrate	27247-96-7	5-10	
Naphthalene	91-20-3	0.1-1	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

- Flammability of the product** : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.

5 . Fire-fighting measures

- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
Hydrocarbon.
Toxic pyrolysis products.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Special remarks on fire hazards** : Toxic pyrolysis products.
- Special remarks on explosion hazards** : In use, may form flammable/explosive vapor-air mixture. Risk of explosion if heated under confinement.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use

7. Handling and storage

non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Product name

Naphtha (petroleum), hydrodesulfurized heavy

Naphthalene

Exposure limits

ACGIH TLV (United States).

TWA: 5 mg/m³

STEL: 10 mg/m³

CA Alberta Provincial (Canada, 6/2008). Absorbed through skin.

15 min OEL: 15 ppm 15 minute(s).

8 hrs OEL: 10 ppm 8 hour(s).

8 hrs OEL: 52 mg/m³ 8 hour(s).

15 min OEL: 79 mg/m³ 15 minute(s).

CA British Columbia Provincial (Canada, 6/2008). Absorbed through skin.

TWA: 10 ppm 8 hour(s).

STEL: 15 ppm 15 minute(s).

CA Ontario Provincial (Canada, 6/2008).

TWAEV: 10 ppm 8 hour(s).

TWAEV: 52 mg/m³ 8 hour(s).

STEV: 15 ppm 15 minute(s).

STEV: 78 mg/m³ 15 minute(s).

CA Quebec Provincial (Canada, 6/2008).

TWAEV: 10 ppm 8 hour(s).

TWAEV: 52 mg/m³ 8 hour(s).

STEV: 15 ppm 15 minute(s).

STEV: 79 mg/m³ 15 minute(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

8 . Exposure controls/personal protection

- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : 63°C (145.4°F)
- Flammable limits** : Lower: 0.6%
Upper: 7%
- Color** : Yellow.
- Odor** : Characteristic.
- Density** : 0.811 g/cm³ [15°C (59°F)]
- Vapor density** : >1 [Air = 1]
- Viscosity** : Kinematic (40°C (104°F)): <0.07 cm²/s (<7 cSt)
- Solubility** : Insoluble in the following materials: cold water and hot water.

10 . Stability and reactivity

- Stability** : The product is stable.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Conditions of reactivity** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
In use, may form flammable/explosive vapor-air mixture. Risk of explosion if heated under confinement.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
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11 . Toxicological information

Naphtha (petroleum), hydrodesulfurized heavy	Rat	>3000 mg/kg	LD50 Dermal	-
	Rat	>5000 mg/kg	LD50 Oral	-
	Rat	>3 mg/L Mist	LC50 Inhalation Vapor	4 hours
2-Ethylhexyl nitrate	Rabbit	>5000 mg/kg	LD50 Dermal	-
	Rat	>10000 mg/kg	LD50 Oral	-
Naphthalene	Rabbit	>20 g/kg	LD50 Dermal	-
	Rat	>2500 mg/kg	LD50 Dermal	-
	Rat	>490 mg/kg	LD50 Oral	-

Inhalation : Toxic by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Skin : Toxic in contact with skin. Moderately irritating to the skin.

Eyes : Moderately irritating to eyes.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Naphthalene	A4	2B	-	None.	Possible	-

12 . Ecological information

Environmental effects : Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Species	Exposure	Result
Naphthalene	Daphnia	48 hours	Acute EC50 1.96 mg/L
	Daphnia	48 hours	Acute LC50 17.4 mg/L
	Fish	96 hours	Acute LC50 2.25 mg/L
	Crustaceans	48 hours	Acute LC50 2.6 to 2.89 ppm
	Fish	96 hours	Acute LC50 2.1 ppm

Biodegradability

Product/ingredient name	Test	Result	Dose	Inoculum
Naphtha (petroleum), hydrodesulfurized heavy	-	43 to 60 % - 5 days	-	-

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste stream : Code: 07 07 04 / 14-06-03 [07 07 04* other organic solvents, washing liquids and mother liquors 14 06 03* other solvents and solvent mixtures]

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information

TDG / IMDG/ IATA : Not regulated.

15 . Regulatory information

Canada

WHMIS (Canada)

: Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
 Class D-1B: Material causing immediate and serious toxic effects (Toxic).
 Class D-2A: Material causing other toxic effects (Very toxic).

Canadian lists

: **CEPA Toxic substances:** The following components are listed: Naphthalene
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory

: Not determined.

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.

International regulations

International lists

: **Australia inventory (AICS):** Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.

16 . Other information

Label requirements

: COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

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

:

HAZARD RATINGS

Health	*	2
Fire hazard		2
Physical Hazard		0
Personal protection		

- 4- Extreme
- 3- Serious
- 2- Moderate
- 1- Slight
- 0- Minimal

See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

:



References

: ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

16 . Other information

Date of issue : 08/24/2009
Date of previous issue : 06/15/2009
Version : 4

Notice to reader

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.