

Liqui Moly GmbH

Chemwatch: 54-6557

Version No: 2.1.1.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

SECTION 1 IDENTIFICATION

Product Identifier

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Product name	20110 PRO-LINE DIESEL PARTICULATE FILTER CLEANER 1L	
Synonyms	No 20110	
Other means of identification	Not Available	
Recommended use of the	Recommended use of the chemical and restrictions on use	
Relevant identified uses	Cleaner.	

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

CHEMWATCH HAZARD RATINGS



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1 Label elements GHS label elements GHS label elements Output SIGNAL WORD DANGER Hazard statement(s) Causes skin irritation. H315 Causes skin irritation. H318 Causes serious eye damage.

Hazard(s) not otherwise specified

Not Applicable



Chemwatch Hazard Alert Code: 3

Issue Date: 07/09/2015 Print Date: 09/12/2016 S.GHS.USA.EN

Precautionary statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.	
Precautionary statement(s) Response	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P310	Immediately call a POISON CENTER or doctor/physician.	
P362	Take off contaminated clothing and wash before reuse.	
P302+P352	IF ON SKIN: Wash with plenty of soap and water.	

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
111-42-2	3-<5	diethanolamine

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	 If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	 Non combustible. Not considered a significant fire risk, however containers may burn. May emit poisonous furnes. May emit corrosive furnes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or verniculite.
Major Spills	Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with moisture. DO NOT allow clothing wet with material to stay in contact with skin
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.
Conditions for safe storag	ge, including any incompatibilities
	Polyethylene or polypropylene container.

	5 5 1 51 15
Suitable container	Packing as recommended by manufacturer.

	 Check all containers are clearly labelled and free from leaks. 	
Storage incompatibility	None known	

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US ACGIH Threshold Limit Values (TLV)	diethanolamine	Diethanolamine	1 mg/m3	Not Available	Not Available	TLV® Basis: Liver & kidney dam
US NIOSH Recommended Exposure Limits (RELs)	diethanolamine	DEA; Di(2-hydroxyethyl)amine; 2,2'-Dihydroxydiethyamine; Diolamine; bis(2-Hydroxyethyl)amine; 2,2'-Iminodiethanol	15 mg/m3 / 3 ppm	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
diethanolamine	Diethanolamine	3 mg/m3	28 mg/m3	130 mg/m3
Ingredient	Original IDLH	F	Revised IDLH	
diethanolamine	Not Available		Not Available	

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care.
Body protection	See Other protection below
Other protection	 Overalls. P.V.C. apron. Barrier cream.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

20110 PRO-LINE DIESEL PARTICULATE FILTER CLEANER 1L

Material	СРІ
BUTYL	A
NATURAL RUBBER	A
NATURAL+NEOPRENE	A
NEOPRENE	A
NITRILE	A
PVC	A
TEFLON	A
VITON	A

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final

selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as

"feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Blue clear liquid with characteristic odour; miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	1.005
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	11.3	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	Not Available

Respiratory protection

Type AEK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AEK-AUS P2	-	AEK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AEK-AUS / Class 1 P2	-
up to 100 x ES	-	AEK-2 P2	AEK-PAPR-2 P2 ^

^ - Full-face

 $\begin{array}{l} \mathsf{A}(\mathsf{All}\ classes) = \mathsf{Organic}\ vapours, \mathsf{B}\ \mathsf{AUS}\ or\ \mathsf{B1} = \mathsf{Acid}\ gasses, \mathsf{B2} = \mathsf{Acid}\ gas\ or\ hydrogen\ cyanide(\mathsf{HCN}), \mathsf{B3} = \mathsf{Acid}\ gas\ or\ hydrogen\ cyanide(\mathsf{HCN}), \mathsf{E} = \mathsf{Sulfur}\ dioxide(\mathsf{SO2}), \mathsf{G} = \mathsf{Agricultural}\ chemicals, \mathsf{K} = \mathsf{Ammonia}(\mathsf{NH3}), \mathsf{Hg} = \mathsf{Mercury}, \mathsf{NO} = \mathsf{Oxides}\ of\ nitrogen, \mathsf{MB} = \mathsf{Methyl}\ \mathsf{bromide}, \mathsf{AX} = \mathsf{Low}\ \mathsf{boiling}\ \mathsf{point}\ organic\ compounds(\mathsf{below}\ 65\ degC) \end{aligned}$

VOC g/L

Not Available

20110 PRO-LINE DIESEL PARTICULATE FILTER CLEANER 1L

SECTION	10 STAR	ΙΤΥ ΔΝΙ	DREACT	ΓΙΛΙΤΛ

Not Available

Vapour density (Air = 1)

Section to Stablett and Reactivity	
Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.		
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.		
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.		
Eye	If applied to the eyes, this material causes severe eye damage.		
0 1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.		
Chronic	· · · · ·	more likely to cause a sensitisation reaction in some persons compared to the general	
20110 PRO-LINE DIESEL	· · · · ·	IRRITATION	
	population.		
20110 PRO-LINE DIESEL PARTICULATE FILTER	population.	IRRITATION	
20110 PRO-LINE DIESEL PARTICULATE FILTER	population. TOXICITY Not Available	IRRITATION Not Available	
20110 PRO-LINE DIESEL PARTICULATE FILTER	population. TOXICITY Not Available TOXICITY	IRRITATION IRRITATION	
20110 PRO-LINE DIESEL PARTICULATE FILTER CLEANER 1L	population. TOXICITY Not Available TOXICITY Dermal (rabbit) LD50: 8342.88 mg/kg ^[2]	IRRITATION IRRITATION Eye (rabbit): 5500 mg - SEVERE	

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

DIETHANOLAMINE	of the skin), urticaria (hives), and facial edema (swelling) are usually transient. The material may cause skin irritation after prolonged or repe scaling and thickening of the skin.	ccur following exposure to high levels se, in a non-atopic individual, with abre e airflow pattern, on spirometry, with t mphocytic inflammation, without eosin al health effects posed by exposure to anurate foams, it is agreed that overea beration, which, in turn, can trigger a s, anxiety, a decrease in blood pressu). Systemic effects (those affecting the eated exposure and may produce on a skin. It can cause moderate skin irritate en shown to cause cancer in humans	s of highly irritating compound. Key criteria for the diagnosis upt onset of persistent asthma-like symptoms within minutes he presence of moderate to severe bronchial hyperreactivity nophilia, have also been included in the criteria for diagnosis of the many different amine compounds, characterised by coosure to the majority of these materials may cause adverse llergic and other physiological effects, including re, tachycardia (rapid heartbeat), itching, erythema (reddening e body) that are related to the pharmacological action of amines contact skin redness, swelling, the production of vesicles, ation and severe eye irritation. It may affect sperm production, s; though there is evidence that it may cause cancer in mice,
Acute Toxicity	0	Carcinogenicity	0
Skin Irritation/Corrosion	¥	Reproductivity	0
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	0
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0

Mutagenicity 🚫

Aspiration Hazard

Legend: 🗙

Data available but does not fill the criteria for classification
 Data required to make classification available

— Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
diethanolamine	LC50	96	Fish	100mg/L	4
diethanolamine	EC50	48	Crustacea	=28.8mg/L	1
diethanolamine	EC50	96	Algae or other aquatic plants	=2.1-2.3mg/L	1
diethanolamine	EC50	96	Crustacea	=1.4mg/L	1
diethanolamine	NOEC	504	Crustacea	=0.78mg/L	1
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
diethanolamine	LOW (Half-life = 14 days)	LOW (Half-life = 0.3 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
diethanolamine	LOW (BCF = 1)

Mobility in soil

Ingredient	Mobility
diethanolamine	HIGH (KOC = 1)

SECTION 13 DISPOSAL CONSIDERATIONS

Naste treatment methods	
Product / Packaging disposal	 DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material). Decontaminate empty containers.

SECTION 14 TRANSPORT INFORMATION

Labels Required			
Marine Pollutant	NO		
Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS			

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

DIETHANOLAMINE(111-42-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	
US - Alaska Limits for Air Contaminants	US - Washington Permissible exposure limits of air contaminants	
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs	US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values	
(CRELs)	US ACGIH Threshold Limit Values (TLV)	
US - California Permissible Exposure Limits for Chemical Contaminants	US ACGIH Threshold Limit Values (TLV) - Carcinogens	
US - California Proposition 65 - Carcinogens	US EPCRA Section 313 Chemical List	
US - Hawaii Air Contaminant Limits	US NIOSH Recommended Exposure Limits (RELs)	
US - Michigan Exposure Limits for Air Contaminants	US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk	
US - Minnesota Permissible Exposure Limits (PELs)	Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for	
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	Chemicals Causing Reproductive Toxicity	
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory	

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	Yes
Delayed (chronic) health hazard	No
Fire hazard	No
Pressure hazard	No
Reactivity hazard	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (Ib)	Reportable Quantity in kg
Diethanolamine	100	45.4

State Regulations

US. CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - CALIFORNIA PREPOSITION 65 - CARCINOGENS & REPRODUCTIVE TOXICITY (CRT): LISTED SUBSTANCE Diethanolamine Listed

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (diethanolamine)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Υ
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average PC – STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit, IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection	OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index