



984 Injector Direct Protection, Diesel MF98400200W3

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Product code: 1100942

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P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P280	Wear eye/face protection.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap..
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents/container according to the official regulations.

Special labelling of certain mixtures

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
		REACH No
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
64742-48-9	Hydrocarbons, C10 - C13, n-alkanes, iso-alkanes, cyclics, < 2 % aromates	50 - < 100 %
	918-481-9	01-2119457273-39
	Asp. Tox. 1; H304 EUH066	
78-83-1	2-methylpropan-1-ol; iso-butanol	5 - < 10 %
	201-148-0	603-108-00-1
	Flam. Liq. 3, STOT SE 3, Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H226 H335 H315 H318 H336	
27247-96-7	2-Ethylhexyl nitrate	5 - < 10 %
	248-363-6	01-2119539586-27
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Aquatic Chronic 2; H332 H312 H302 H411 EUH044 EUH066	
128-37-0	2,6-di-tert-butyl-p-cresol	1 - < 3 %
	204-881-4	01-2119565113-46
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410	
104-76-7	2-Ethylhexan-1-ol	1 - < 3 %
	203-234-3	01-2119487289-20
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H332 H315 H319 H335	

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.



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After inhalation

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

4.2. Most important symptoms and effects, both acute and delayed

Headache, nausea, dizziness, fatigue, skin irritation

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Foam. Carbon dioxide (CO₂). Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO₂, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special measures are necessary.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Further information on handling

Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Advice on storage compatibility

Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

Further information on storage conditions

Store in a cool dry place. Observe legal regulations and provisions.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
128-37-0	2,6-Di-tert-butyl-p-cresol	-	10		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
78-83-1	2-Methylpropan-1-ol	50	154		TWA (8 h)	WEL
		75	231		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
27247-96-7	2-Ethylhexyl nitrate			
Worker DNEL, long-term		inhalation	systemic	0,35 mg/m ³
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	0,52 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,025 mg/kg bw/day



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PNEC values

CAS No	Substance	
	Environmental compartment	Value
27247-96-7	2-Ethylhexyl nitrate	
	Freshwater	0,0008 mg/l
	Marine water	0,00008 mg/l
	Freshwater sediment	0,00074 mg/kg
	Marine sediment	0,00074 mg/kg
	Micro-organisms in sewage treatment plants (STP)	10 mg/l
	Soil	0,000191 mg/kg

Additional advice on limit values

- a no restriction
- b End of exposure or end of shift
- c at long term exposure: after several previous shifts
- d before next shift

- blood (B)
- Urine (U)

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection

Wear eye protection/face protection.

Hand protection

Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Suitable material: NBR (Nitrile rubber) Breakthrough time (maximum wearing time) 480min

Thickness of the glove material 0,45 mm

DIN EN 374

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

When exceeding the relevant workplace exposure limits, note the following:

Suitable respiratory protective equipment: Combination filter device (DIN EN 141)..

Filtering device with filter or ventilator filtering device of type:

Observe the wear time limits as specified by the manufacturer.

Observe legal regulations and provisions.

Environmental exposure controls

Observe legal regulations and provisions.



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
 Colour: green
 Odour: solvent like

Test method

pH-Value (at 20 °C): not determined DIN 19268

Changes in the physical state

Melting point: not determined

Initial boiling point and boiling range: 100 °C

Flash point: 33 °C ISO 3679

Flammability

Solid: not applicable

Gas: not applicable

Lower explosion limits: 0,5

Upper explosion limits: 11,3

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure: not determined

Density (at 20 °C): 0,8 g/cm³ DIN 51757

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water

Solubility in other solvents

not determined

Partition coefficient: not determined

Viscosity / dynamic: No information available. DIN 53019-1

Viscosity / kinematic: No information available. DIN EN ISO 3104
 (at 40 °C)

Flow time: No information available. DIN EN ISO 2431
 (at 20 °C)

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.



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10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharges.

10.5. Incompatible materials

Oxidizing agents. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Further information

Do not mix with other chemicals.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name			
	Exposure route	Dose	Species	Source
64742-48-9	Hydrocarbons, C10 - C13, n-alkanes, iso-alkanes, cyclics, < 2 % aromates			
	oral	LD50 >8000 mg/kg	Rat	
	dermal	LD50 >3160 mg/kg	Rabbit	
	inhalative (4 h) vapour	LC50 4951 mg/l	Rat	
78-83-1	2-methylpropan-1-ol; iso-butanol			
	oral	LD50 > 2830 mg/kg	Rat	
	dermal	LD50 > 2000 mg/kg	Rat	
	inhalative (4 h) vapour	LC50 > 24 mg/l	Rat	
27247-96-7	2-Ethylhexyl nitrate			
	oral	LD50 >9640 mg/kg	Rat	
	dermal	LD50 >4820 mg/kg	Rabbit	
	inhalative (4 h) vapour	LC50 11 mg/l	Rat	
	inhalative aerosol	ATE 1,5 mg/l		
128-37-0	2,6-di-tert-butyl-p-cresol			
	oral	LD50 2930 mg/kg	Rat	
	dermal	LD50 >2000 mg/kg	Rat	
104-76-7	2-Ethylhexan-1-ol			
	oral	LD50 2047 mg/kg	Rat	
	dermal	LD50 > 3000 mg/kg	Rat	
	inhalative (4 h) vapour	LC50 11 mg/l	Rat	
	inhalative aerosol	ATE 1,5 mg/l		



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Irritation and corrosivity

Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

No indications of human carcinogenicity exist.

No indications of human germ cell mutagenicity exist.

No indications of human reproductive toxicity exist.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

May be fatal if swallowed and enters airways. (Hydrocarbons, C10 - C13, n-alkanes, iso-alkanes, cyclics, < 2 % aromates)

Specific effects in experiment on an animal

No information available.

Additional information on tests

Classification according EC regulation 1272/2008 (CLP):

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.



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CAS No	Chemical name				
	Aquatic toxicity	Dose	[h] [d]	Species	Source
64742-48-9	Hydrocarbons, C10 - C13, n-alkanes, iso-alkanes, cyclics, < 2 % aromates				
	Acute fish toxicity	LC50 >1000 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	
	Acute algae toxicity	ErC50 >1000 mg/l	96 h	Scenedesmus subspicatus	
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna	
78-83-1	2-methylpropan-1-ol; iso-butanol				
	Acute fish toxicity	LC50 1430 mg/l	96 h	Pimephales promelas	
	Acute algae toxicity	ErC50 1250 mg/l		Desmodesmus subspicatus	
	Acute crustacea toxicity	EC50 1439 mg/l	48 h	Daphnia magna	
27247-96-7	2-Ethylhexyl nitrate				
	Acute fish toxicity	LC50 2 mg/l	96 h	Danio rerio	Study report (2010)
	Acute algae toxicity	ErC50 > 12,6 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1998)
	Acute crustacea toxicity	EC50 > 12,6 mg/l	48 h	Daphnia magna	Study report (1998)
	Acute bacteria toxicity	(> 1000 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)
128-37-0	2,6-di-tert-butyl-p-cresol				
	Acute fish toxicity	LC50 0,42 mg/l	96 h	Brachydanio rerio (zebra-fish)	
	Acute algae toxicity	ErC50 0,42 mg/l	72 h	Scenedesmus subspicatus	
	Acute crustacea toxicity	EC50 0,57 mg/l	48 h	Daphnia magna	
104-76-7	2-Ethylhexan-1-ol				
	Acute fish toxicity	LC50 17,1 mg/l	96 h	Leuciscus idus (golden orfe)	
	Acute algae toxicity	ErC50 11,5 mg/l	72 h	Scenedesmus subspicatus	
	Acute crustacea toxicity	EC50 39 mg/l	48 h	Daphnia magna	

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
78-83-1	2-methylpropan-1-ol; iso-butanol	0,79
27247-96-7	2-Ethylhexyl nitrate	5,24
104-76-7	2-Ethylhexan-1-ol	2,9

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.



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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

Waste disposal number of used product

070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (iso-butanol)
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Classification code:	F1
Special Provisions:	274 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (iso-butanol)
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Classification code:	F1
Special Provisions:	274 601
Limited quantity:	5 L
Excepted quantity:	E1

Marine transport (IMDG)



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14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (iso-butanol)
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Marine pollutant:	no
Special Provisions:	223, 274, 955
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (iso-butanol)
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3
Special Provisions:	A3
Limited quantity Passenger:	10 L
Passenger LQ:	Y344
Excepted quantity:	E1
IATA-packing instructions - Passenger:	355
IATA-max. quantity - Passenger:	60 L
IATA-packing instructions - Cargo:	366
IATA-max. quantity - Cargo:	220 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 28: Hydrocarbons, C10 - C13, n-alkanes, iso-alkanes, cyclics, < 2 % aromates

2010/75/EU (VOC): No information available.

2004/42/EC (VOC): No information available.

National regulatory information

Water contaminating class (D): 2 - clearly water contaminating

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,14.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)



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IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)