



Restore Diesel Fuel Injector Cleaner

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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Blend Version: 7

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Restore Diesel Fuel Injector Cleaner
Product code : S11764

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Diesel fuel additive

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Groupe Restore - Biral N.V.
Rue de l'Echauffourée 1
7700 MOESKROEN (MOUSCRON) - België
T +32 (0)56 33 38 40 - F +32 (0)56 33 38 07
biral.lubricants@laposte.net - www.biral-lubricants.be

1.4. Emergency telephone number

Emergency number : BIG: 0032 (0)14 58 45 45

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

STOT RE 1 H372
Asp. Tox. 1 H304
Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) : Danger
Hazardous ingredients : hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Hazard statements (CLP) : H304 - May be fatal if swallowed and enters airways
H372 - Causes damage to organs (central nervous system) through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects
EUH-statements : EUH066 - Repeated exposure may cause skin dryness or cracking
Precautionary statements (CLP) : P102 - Keep out of reach of children
P405 - Store locked up
P260 - Do not breathe vapours
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor
P331 - Do NOT induce vomiting
P273 - Avoid release to the environment

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% w	Classification according to Directive 67/548/EEC
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	(EC no) 919-164-8 (REACH-no) 01-2119473977-17	>= 90	Xn; R48/20 Xn; R65 R66
2-Ethylhexyl nitrate	(CAS No) 27247-96-7 (EC no) 248-363-6 (REACH-no) 01-2119539586-27	5 - 10	Xn; R20/21/22 R44 N; R51/53 R66

Name	Product identifier	Specific concentration limits
2-Ethylhexyl nitrate	(CAS No) 27247-96-7 (EC no) 248-363-6 (REACH-no) 01-2119539586-27	(C >= 10) R44

Name	Product identifier	% w	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	(EC no) 919-164-8 (REACH-no) 01-2119473977-17	>= 90	STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
2-Ethylhexyl nitrate	(CAS No) 27247-96-7 (EC no) 248-363-6 (REACH-no) 01-2119539586-27	5 - 10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Keep victim at rest in half upright position. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Keep watching the victim. Give psychological aid. Prevent cooling by covering the victim (no warming up). Keep the victim calm, avoid physical strain. If necessary seek medical advice.
- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

- Symptoms/injuries after skin contact : Repeated exposure may cause skin dryness or cracking.
- Symptoms/injuries after ingestion : Harmful if swallowed. Risk of aspiration pneumonia. May be fatal if swallowed and enters airways. Headache. Abdominal pain.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. AFFF foam. ABC-powder.

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5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid. This material can accumulate static charge by flow or agitation and can be ignited by static discharge.
- Explosion hazard : Product is not explosive.

5.3. Advice for firefighters

- Firefighting instructions : Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : No open flames. No smoking. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable gloves and eye/face protection. protective clothing.
- Emergency procedures : Mark the danger area. Large spills/in enclosed spaces: compressed air apparatus. Prevent flow to low areas. Take off contaminated clothing and wash before reuse.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.

6.2. Environmental precautions

- Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage. Contain leaking substance, pump over in suitable containers.
- Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Clean preferably with a detergent - Avoid the use of solvents.

6.4. Reference to other sections

- For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Meet the legal requirements. Repeated or prolonged contact with the product may lead to removal of natural fats from the skin. Presents no particular risk when handled in accordance with good occupational hygiene practice.
- Hygiene measures : Use good personal hygiene practices. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Does not require any specific or particular technical measures.
- Storage conditions : Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed.
- Storage temperature : < 45 °C
- Storage area : Meet the legal requirements. Keep container tightly closed in a cool, well-ventilated place. Ventilation along the floor.
- Special rules on packaging : Store in a closed container. correctly labelled.

7.3. Specific end use(s)

- No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Belgium	Limit value (mg/m ³)	533 mg/m ³
Belgium	Limit value (ppm)	100 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	100 ppm

2-Ethylhexyl nitrate (27247-96-7)

DNEL/DMEL (Workers)

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2-Ethylhexyl nitrate (27247-96-7)

Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0,35 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, dermal	0,52 mg/kg bodyweight/day
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

Hydrocarbons, C10, aromatics, <1% naphthalene

DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	12,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	151 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	7,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	32 mg/m ³
Long-term - systemic effects, dermal	7,5 mg/kg bodyweight/day

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Does not require any specific or particular technical measures.

Personal protective equipment : Gloves. Safety glasses.



Hand protection : Neoprene. Nitrile rubber. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Time of penetration is to be checked with the glove producer.

Other information : Breakthrough time : >30'. Thickness of the glove material >0,1 mm.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Yellow.
Odour	: petroleum-like odour.
Odour threshold	: No data available
pH	:
Relative evaporation rate (butylacetate=1)	: No data available
refraction index	: 1,446
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 62 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density @20°C	: 811 kg/m ³
Solubility	: Insoluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic @40°C	: 1,23 mm ² /s
Viscosity, dynamic @40°C	: No data available

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Viscosity	:
Viscosity Index	:
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content	: 97,82 %
Additional information	: The physical and chemical data in this section are typical values for this product and are not intended as product specifications.

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Keep away from strong acids and strong oxidizers.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On burning: release of harmful/irritant gases/vapours. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful: may cause lung damage if swallowed

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

LD50 oral rat > 15000 mg/kg

LD50 dermal rabbit > 3400 mg/kg

LC50 inhalation rat (mg/l) > 13,1 mg/l/4h

2-Ethylhexyl nitrate (27247-96-7)

LD50 oral rat > 9600 mg/kg bodyweight Sprague-Dawley

ATE CLP (oral) 500,000 mg/kg bodyweight

ATE CLP (dermal) 1100,000 mg/kg bodyweight

ATE CLP (dust,mist) 1,500 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Causes damage to organs (central nervous system) through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : This product contains hazardous components for the aquatic environment.

Ecology - water : Harmful to aquatic life with long lasting effects.

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2-Ethylhexyl nitrate (27247-96-7)

LC50 fish 1	96h 2 mg/l Brachydanio rerio
EC50 Daphnia 1	> 12,6 mg/l @48h Daphnia magna
EC50 other aquatic organisms 1	72h 1,57 mg/l Pseudokirchnerella subcapitata

12.2. Persistence and degradability

2-Ethylhexyl nitrate (27247-96-7)

Persistence and degradability Not readily biodegradable.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Remove to an authorized waste treatment plant. Avoid release to the environment.
European List of Waste (LoW) code	: 14 06 03* - other solvents and solvent mixtures 15 01 10* - packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Air transport

No additional information available

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

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 97,82 %

15.1.2. National regulations

Water hazard class (WGK) : 2 - hazard to waters

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H332	Harmful if inhaled
H372	Causes damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
EUH066	Repeated exposure may cause skin dryness or cracking

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product