

**SAFETY DATA SHEET**

According to Canadian Hazardous Products Regulations (HPR) (SOR/2015/17)

SDS # : 35161

ADBLUE®

Date of the previous version: not applicable

Revision Date: 2018-08-02

Version 1

1. IDENTIFICATION**Product identifier**

Product name ADBLUE®

Other means of identification

Product Code(s) 35161

Number 8LN
Substance/mixture Mixture**Recommended use of the chemical and restrictions on use**

Identified uses Reducing agent for nitrogen oxides emitted from diesel engine-powered vehicles

Uses advised against Do not use for any purpose other than the one for which it is intended.

Details of the supplier of the safety data sheetSupplier TOTAL CANADA INC.
220, LAFLEUR
LASALLE, QUEBEC
H8R 4C9
Tel: (514) 595-7579
Fax: (514) 595-5950

Contact Point service HSE

E-mail Address ProductSafety@total.com

Emergency telephone number

Emergency telephone

Company Phone Number

1-800-463-3955

+1 866 928 0789 (24h/24, 7d/7)

+1 215 207 0061 (24h/24, 7d/7)

2. HAZARDS IDENTIFICATION**Classification**

The product is not classified as hazardous according to WHMIS

Label elements

The product is not classified as hazardous according to WHMIS

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Hazard Statements

None

Other information**Physical-Chemical Properties**

Contaminated surfaces will be extremely slippery.

Environmental properties

Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture****Chemical nature**

Aqueous solution.

The product contains no substances which at their given concentration, are considered to be hazardous to health.

4. FIRST AID MEASURES**First aid measures for different exposure routes****General advice**

IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse.

Inhalation

Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration.

Ingestion

Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Protection of First-aiders

First aider needs to protect himself. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed**Skin contact**

Not classified based on available data.

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| Eye contact | Not classified based on available data. |
| Inhalation | Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| Ingestion | Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
| Symptoms | No information available. |

Indication of immediate medical attention and special treatment needed, if necessary
Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| <u>Suitable Extinguishing Media</u> | Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog. |
| <u>Unsuitable Extinguishing Media</u> | Do not use a solid water stream as it may scatter and spread fire. |
| <u>Special Hazard</u> | Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. The potential danger appears only after the evaporation of the water in the product, i.e. during fire or after accidental projection of the product on a very hot surface. |
| <u>Explosion Data</u> | |
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | None. |
| Special protective equipment for fire-fighters | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel. |

6. ACCIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures

| | |
|----------------------------|--|
| General Information | Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. |
| Other information | See Section 12 for additional information. |

Environmental precautions

| | |
|----------------------------|--|
| General Information | Do not allow material to contaminate ground water system. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained. |
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Methods and material for containment and cleaning up**Methods for containment**

Dike to collect large liquid spills. If necessary dike the product with dry earth, sand or similar non-combustible materials.

Methods for cleaning up

Dispose of contents/container in accordance with local regulation. In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on safe handling**

For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion

No specific measures identified.

Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Keep from freezing. Keep at temperatures between 5 and 40 °C. Protect from moisture. Shelf life 8 months.

Materials to Avoid

Strong acids. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure limits**

Metalworking fluids:
USA: NIOSH (REL) TWA 0.5 mg/m³.

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Legend

See section 16

Exposure controls

Engineering Measures

Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

General Information

Protective engineering solutions should be implemented and in use before personal protective equipment is considered. The personal protective equipment (PPE) recommendations apply to the product ITSELF. In case of mixtures or formulations, it is suggested that you contact the relevant PPE suppliers.

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots.

Hand Protection

Hydrocarbon-proof gloves: Impermeable butyl rubber gloves, Neoprene gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Respiratory protection

None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapor/particulate. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Appearance

limpid

Color

colorless

Physical State @20°C

liquid

Odor

Slight, Ammoniacal

Odor Threshold

No information available

Property
Values
Remarks
Method

pH

9 - 10

@ 20 °C

DIN ISO 976

Melting point/range

Not applicable

Boiling point/boiling range

>= 100 °C

@ 1.013 bar

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| Flash point | >= 176 °F | Not applicable | |
| Evaporation rate | | No information available | |
| Flammability Limits in Air | | | |
| upper | | Not applicable | |
| Lower | | Not applicable | |
| Vapor Pressure | 2.3 kPa | @ 20 °C | |
| Vapor density | | No information available | |
| Relative density | 1.087 - 1.093 | @ 20 °C | ISO 2811-3 |
| Density | 1087 - 1093 kg/m ³ | @ 20 °C | ISO 2811-3 |
| Water solubility | | soluble | |
| Solubility in other solvents | | No information available | |
| logPow | | No information available | |
| Autoignition temperature | | Not applicable | |
| Decomposition temperature | | No information available | |
| Viscosity, kinematic | | No information available | |
| Viscosity, dynamic | 2.5 mPa s | @ 20 °C | |
| Explosive properties | Not explosive | | |
| Oxidizing Properties | Not applicable | | |
| Possibility of hazardous reactions | None under normal processing | | |
| Other information | | | |
| Freezing Point | | No information available | |

10. STABILITY AND REACTIVITY

| | |
|---|--|
| <u>Reactivity</u> | None under normal processing. |
| <u>Chemical stability</u> | Stable under recommended storage conditions. |
| <u>Possibility of hazardous reactions</u> | No dangerous reaction known under conditions of normal use. |
| <u>Conditions to avoid</u> | Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat and sparks. |
| <u>Incompatible materials</u> | Strong acids. Bases. |
| <u>Hazardous Decomposition Products</u> | Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. |

11. TOXICOLOGICAL INFORMATIONInformation on likely routes of exposure

| | |
|--------------|---|
| Symptoms | No information available. |
| Skin contact | Not classified based on available data. |

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| | |
|--------------------|--|
| Eye contact | Not classified based on available data. |
| Inhalation | Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system. |
| Ingestion | Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Acute toxicity - Product Information**

| | |
|-------------------|--|
| Oral | Not classified based on available data |
| Dermal | Not classified based on available data |
| Inhalation | Not classified based on available data |

Acute toxicity - Component Information

| | |
|--|---|
| Skin corrosion/irritation | Not classified based on available data. |
| Serious eye damage/eye irritation | Not classified based on available data. |
| Respiratory or skin sensitization | Not classified based on available data. |
| Germ cell mutagenicity | Not classified based on available data. |
| Carcinogenicity | Not classified based on available data. |

| | |
|------------------------------------|---|
| Reproductive toxicity | Not classified based on available data. |
| Target Organ Effects (STOT) | None known. |
| STOT - single exposure | Not classified based on available data. |
| STOT - repeated exposure | Not classified based on available data. |
| Aspiration hazard | Not classified based on available data. |

12. ECOLOGICAL INFORMATION**Ecotoxicity****Acute aquatic toxicity - Product Information**

No information available

Acute aquatic toxicity - Component Information

No information available

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Chronic aquatic toxicity - Product Information

No information available

Chronic aquatic toxicity - Component Information

No information available

Effects on terrestrial organisms No information available.**Persistence and degradability**

No information available

Bioaccumulative potential**Product Information** No information available.**logPow** No information available**Component Information** No information available.**Mobility**

Soil Given its physical and chemical characteristics, the product is generally mobile in the ground. It may contaminate ground water.

Air the product may evaporate

Water soluble

Other adverse effects**General Information** No information available**13. DISPOSAL CONSIDERATIONS****Waste treatment****Waste from residues/unused products**

Should not be released into the environment. Do not empty into drains. Dispose of in accordance with all applicable national environmental laws and regulations. Where possible recycling is preferred to disposal or incineration. Other Regulatory Status: No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease. Provincial criteria are likely and should be requested when notifying provincial authorities.

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Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

| | |
|------------------|---------------|
| <u>TDG</u> | Not regulated |
| <u>DOT</u> | Not regulated |
| <u>MEX</u> | Not regulated |
| <u>ICAO/IATA</u> | Not regulated |
| <u>IMDG/IMO</u> | Not regulated |
| <u>ADR/RID</u> | Not regulated |
| <u>ADN</u> | Not regulated |

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) (SOR/2015/17) and the Safety Data Sheet (SDS) contains all the information required by the HPR

International Inventories

All the substances contained in this product are listed or exempted from listing in the following inventories:
Canada (DSL/NDSL)
U.S.A. (TSCA)

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | | | | |
|-------------|-----------------|----------------|-------------------|-----------------------|
| <u>NFPA</u> | Health Hazard 0 | Flammability 0 | Instability 0 | Special hazards - |
| <u>HMIS</u> | Health Hazard 0 | Flammability 0 | Physical Hazard 0 | Personal protection X |

Revision Date: 2018-08-02
Revision Note: Initial Release

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists
bw = body weight
bw/day = body weight/day

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EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

NTP = National Toxicology Program

Section 8

TWA - Time Weight Average

STEL - Short Term Exposure Limits

| | |
|----------|---------------------|
| + | Sensitizer |
| C: | Carcinogen |
| Ceiling: | Ceiling Limit Value |

| | |
|----|-----------------------|
| * | Skin designation |
| R: | Toxic to reproduction |

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet