	Safety Data Sheet		Adblue				
	Authorised by	<i>Jon Lockwood</i>	Signed	<i>Jon Lockwood</i>			
Issue no.	3	Issued Date	27/06/2023	Review Date	June 2025	Reference	0001

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

1.1 Product Identifier

Product form	Liquid					
Product name & synonyms	Greenox, automotive urea solution 32, AUS 32, diesel exhaust fluid, DEF					
CAS No.	57-13-6	EINECS No.	200-315-3	REACH Reg. No.	01-2119463277-33- xxx (Urea)	
Type of product	Mixture of urea & water					

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

Main use category	NOx reducing agent, for injection into exhaust system of diesel engines					
Other uses	Industrial use for flue gas NOx & SOx reduction. Laboratory / research chemical					
Uses advised against	None					

1.3 Details of the supplier of the safety data sheet

New Era Fuels Ltd. Riverview House, River Way, Harlow, Essex. CM20 2EA	Tel. no. 01279 425 757 Email info@newerafuels.co.uk
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1.4 Emergency telephone number

01279 425 757 Mon-Fri 08.00 to 17.00

Section 2: Hazards Identification

2.1 Classification of the substance or mixture (according to Regulation (EC) No. 1272/2008 [CLP])	Not classified
Classification according to Directive 67/548/EEC or 1999/45/EC as amended	Not classified

Hazard area	Hazard type	Category	Hazard statements
Physical Hazards	None		
Health hazards	None		
Environmental hazards	None		

2.2 Label elements (according to Regulation (EC) No. 1272/2008 [CLP]) as amended

Hazard pictograms	None	Precautionary statements	None
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2.3 Other hazards This mixture does not contain any substances that are assessed to be a PBT or vPvB

Section 3: Composition / information on ingredients

3.2 Mixture – An aqueous solution of urea

Chemical characterisation	Mixture	Description	Urea
Dangerous components	There are no ingredients present which are classified as hazardous to health or the environment		

Section 4: First aid measures

If exposed or concerned, seek medical advice. Show this SDS to the Doctor. Wash contaminated clothing before re-use

4.1 Description of first aid measures

<i>Eye contact</i>	Flush thoroughly with water for several minutes - If irritation occurs, seek medical advice
<i>Skin contact</i>	Immediately rinse with water - If irritation occurs, seek medical advice
<i>Inhalation</i>	Avoid inhalation of vapour, mist or spray. Remove from exposure. If symptoms persist, seek medical attention
<i>Ingestion</i>	Rinse out mouth & drink water. Do not induce vomiting. Seek medical attention.

4.2 Most important symptoms and affects, both acute and delayed

<i>Symptoms / injuries after eye contact</i>	No known significant effects or critical hazards
<i>Symptoms / injuries after skin contact</i>	No known significant effects or critical hazards
<i>Symptoms / injuries after inhalation</i>	Decomposition products may cause a health hazard. Serious effects may be delayed (48 hrs)
<i>Symptoms / injuries after ingestion</i>	No known significant effects or critical hazards

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact poison treatment specialist if large quantities have been ingested or inhaled.

Section 5: Firefighting measures

Heating may generate vapours which may form explosive vapour / air mixtures. Containers may explode when heated.

5.1 Extinguishing media

Suitable extinguishing media	Use fire extinguishing methods suitable to surrounding conditions
Unsuitable extinguishing media	Not known

5.2 Special hazards arising from the substance or mixture






Hazardous decomposition products in case of fire May include carbon dioxide, carbon monoxide, nitrogen oxides and ammonia.

5.3 Advice for firefighters

Isolate the scene. Wear suitable, complete protective clothing (helmet, boots, gloves). Self-contained breathing apparatus.

Section 6: Accidental release measures	
6.1 Personal precautions, protective equipment and emergency procedures	
Evacuate surrounding area. Stop personnel from entering area. Do not touch or walk through spilled material. Wear suitable PPE	
Emergency personnel	Follow information in other sections and precautions for non-emergency personnel
6.2 Environmental precautions	
Do not allow to enter sewers, surface or ground water	
6.3 Methods and material for containment and cleaning up	
For containment	Move containers from spill area. Prevent entry into waterways, sewers, basements or confined areas
Methods for cleaning up	Use absorbent spill kits, dry earth, sand or other non-combustible materials
Other information	Dispose of contaminated materials or solid residues using a registered waste contractor
6.4 Reference to other sections	
For further information refer to sections 7, 8 & 13	

Section 7: Handling and storage	
7.1 Precautions for safe handling	
Precautions for safe handling	Prevent formation of aerosols. Ensure good ventilation of the work area. Wear PPE.
Handling measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2 Conditions for safe storage, including any incompatibilities	
Storage conditions	In well- sealed receptacles. In a cool, dry, well-ventilated area. Temp. -11 °C and not above +30 °C. Store out of direct sunlight. Do not store in unlabelled containers. Bunded storage to prevent soil & water pollution
Incompatibilities	Away from oxidisers. Avoid contact with mild steel, aluminium, brass or copper if using in catalytic SCR systems.
7.3 Specific end use(s)	
Not available	

Section 8: Exposure controls / personal protection				
8.1 Control parameters				
The product does not contain any relevant quantities of materials with critical values that have to be monitored in the workplace				
8.2 Exposure controls				
Avoid all unnecessary exposure. If repeated skin contact or contamination of clothing is likely, protective clothing should be worn.				
Engineering controls	Adequate ventilation & keep mist low. Goggles if splashing is possible. Eye wash / shower available			
Personal protective equipment	Safety boots & Hi-vis required on site. Gloves, eye protection, protective overalls where appropriate			
Materials for protective clothing	Wear suitable protective clothing			
Hand protection	Wear gloves impermeable to the product			
Eye / face protection	Goggles, safety glasses or face shield where needed to avoid splashes or mists			
Skin and body protection	Overalls, apron and boots recommended			
Respiratory protection	Where inadequate ventilation use approved respiratory protection equipment - filter P2 (EN143)			
Thermal hazards	Not required under normal use			
Boots	Hi-vis top	Overalls	Eye protection	Gloves
				
Hygiene measures	Do not eat, drink or smoke when using product. Always wash hands after handling the product			
Environmental exposure controls	Fume scrubbers, filters or closed systems put in place only where emissions exceed legislation			

Section 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
Physical state / Appearance / Form	Liquid
Colour	Clear / colourless
Odour	Ammonia like or odourless
pH	8-10
Melting point	-10.5-11 °C
Boiling point	100 °C
Flash point / Auto-ignition / Decomposition temps.	Not applicable
Self-igniting	Product is not self-igniting
Flammability	Not flammable
Explosive properties	Product does not present an explosion hazard
Upper / lower flammability or explosive limits	Lower (%) Not applicable Upper (%) Not applicable
Vapour pressure	23-30.94 hPa @ 20/25 °C
Density at 20 °C	1.087 to 1.093 g/cm ³
Solubility in / miscibility with water	Fully miscible >100g/l
Partition coefficient (n-octanol/water)	Not determined. Inorganic substance.
Viscosity	Dynamic 1.4 mPa.s @ 20 °C Kinematic 1.287 mm ² /s @ 20 °C
Density	1.088 g/cm ³ Relative Vapour Density <1 (Air – 1)
9.2 Other information	
Other properties	No additional information

Section 10: Stability and reactivity	
10.1 Reactivity	The product is stable under regular conditions of use, storage and transport
10.2 Chemical stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	Reacts violently with strong oxidants, nitrates, inorganic chlorides, chlorites & perchlorates causing fire & explosion hazard
10.4 Conditions to avoid	Avoid contamination with metal, dust or organic matter
10.5 Incompatible materials	Strong oxidisers, acids, alkalis, nitrite & nitrates, chlorites & perchlorates. Not in contact with mild steel, aluminium, brass, copper or alloys
10.6 Hazardous decomposition products	Under normal conditions none. Under thermal decomposition (above 220 °C) produces toxic gases

Section 11: Toxicological information			
11.1 Information on toxicological effects (according to Regulation (EC) No. 1272/2008 [CLP])			
Acute oral toxicity LD50	8471 mg/kg bw (for urea)		
Acute dermal toxicity LD50	8200 mg/kg bw (for urea)		
Acute inhalation toxicity	Not relevant		
Skin corrosion / irritation / sensitisation	Not irritating. No sensitising effect known.		
Serious eye damage / irritation	Not classified		
Respiratory sensitisation	Not classified		
Germ cell mutagenicity (Ames-test)	Negative		
Carcinogenicity (Ames-test)	Negative		
Reproductive toxicity (Ames-test)	Negative		
Specific target organ toxicity (single exposure)	None	Specific target organ toxicity (repeated exposure)	None
Aspiration hazard	Not classified		
Absorption	Rapidly absorbed	Elimination	Fully excreted – do not accumulate within the body

Section 12: Ecological information		
12.1 Toxicity	Aquatic toxicity	57-13-6 Urea, EC50 >10,000 mg/kg (daphnia)
12.2 Persistence and degradability	Biodegradable	
12.3 Bio-accumulative potential	Product is not expected to bioaccumulate	
12.4 Mobility in soil	No further relevant information available	
12.5 Results of PBT and vPvB assessment	Not applicable	
12.6 Other adverse effects	No further relevant information available	

Section 13: Disposal considerations	
13.1 Waste treatment methods	
Waste treatment methods	Dispose of contents / container in accordance with licensed collector's sorting instructions
Waste disposal recommendations	Hierarchy of controls: Minimise – Reuse – Recycle – (dilute & use as fertiliser) – safe disposal
Contaminated packaging	Clean with water and other cleansing agents
EU waste code	06 10 99 (wastes not otherwise specified)
Disposal methods / information	Dispose of contents / container in accordance with licensed collector's sorting instructions

Section 14: Transport information			
This product is not classed as hazardous for transport (ADR / RID / IMDG / IATA / AND)			
Proper shipping name	Urea solution	Liquid bulk cargoes	Ship type: 3 – Pollution category: Z

Section 15: Regulatory information	
15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture	
EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV – Not applicable	Europe inventory: All components are listed or exempted
	This product is not controlled under the Seveso II Directive
15.2 Chemical safety assessment	
A chemical safety assessment has been carried out for this substance	

Section 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bio Concentration Factor
CLP	Classification Labelling Packaging Regulation (EC) No. 1272/2008
DNEL	Derived No Effect Level
EC50	Median effective concentration
eSDS	Extended Safety Data Sheet
EWC	European Waste Catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median Lethal Concentration
LEL	Lower Explosive (Explosion) Limit
LD50	Median Lethal Dose
LOAEL	Lowest Observed Adverse Effective Level
NOAEC	No Observed Adverse Effective Concentration
NOAEL / NOEL	No Observed Adverse Effective Level / No Observed Effect Level
NOEC	No Observed Effective Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No. 1907/2006
PNEC	Predicted No Effect Concentration
PBT	Persistent Bio-accumulative Toxic
REACH	Registration, Evaluation, Authorisation & restriction of CHemicals
RID	Regulations concerning the International carriage of Dangerous goods by rail
SDS	Safety Data Sheet
STEL	Short-term Exposure Limit
STOT SE	Single Target Organ Toxicity – Single Exposure
STOT RE	Single Target Organ Toxicity – Repeated Exposure
STP	Sewage Treatment Plant
TWA	Time Weighted Average
UEL	Upper Explosive (Explosion) Limit
UVCB	Substance of unknown or variable composition, complex reaction products or biological material
vPvB	Very Persistent and Very Bio-accumulative

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