



# MACHHAR INDUSTRIES LTD, CHITEGAON

## MATERIAL SAFETY DATA SHEET DEF/ AUS 32

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### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: AUS 32

Product Description : Diesel engine exhaust fluid/ SCR fluid – For reduction in emission pollutants

Product Type : Liquid

Other Name: AUS32 (Aqueous urea Solution 32.5%)

Recommended use:

Used in a selective catalytic reduction (SCR) process to reduce emissions of oxides of nitrogen from the exhaust of diesel engine motor vehicles. Intended for industrial only. For further information, refer to the product technical data sheet.

Supplier / Manufacturer :

Machhar Industries Ltd

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### 2. HAZARDS IDENTIFICATION

Hazard classification: NON – HAZARDOUS substance, NON – DANGEROUS goods.

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. According to the WHS Regulations and the ADG Code

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Name	Proportion	CAS Number
Urea	32.5%	57-13-6
Water	Balance	7732-18-5



#### 4. FIRST AID MEASURES

##### Ingested:

Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms develop seek medical attention. If large quantities ingested seek medical attention immediately. Show this sheet to the doctor.

##### Eye:

If contact with the eye(s) occurs, flush the eye with copious amounts of water for at least 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Remove contact lenses, if present and easy to do so. Continue rinsing. If symptoms persist seek medical attention. Show this sheet to the doctor. Do not use a neutralisation agent

##### Skin:

Remove all contaminated clothing and footwear. Wash skin immediately with mild soap and plenty of water (shower if necessary). Clean contaminated clothing and footwear before reuse or discard. In case of inflammation (redness, irritation) obtain medical attention. Show this sheet to the doctor.

##### Inhaled:

If respiratory irritation or distress occurs remove victim to fresh air. Allow the affected person to rest. Apply artificial respiration if not breathing. Seek medical attention if respiratory irritation or distress continues. Show this sheet to the doctor. Aggravated medical conditions caused by exposure. Skin contact may aggravate existing skin disease.

##### First Aid Facilities:

Eye wash fountain, safety shower and normal washroom facilities.

##### Advice to Doctor:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

##### Further information:

Use appropriate protective equipment when treating a contaminated person. Place contaminated clothing in a sealed bag for disposal.



## **5. FIRE – FIGHTING MEASURES**

Extinguishing Media:

Recommended: In case of nearby fire, use of all type of extinguishing media allowed.

Hazards from Combustion Products:

Combustion products may include the following:

carbon monoxide (CO), carbon dioxide(CO<sub>2</sub>), nitrogen oxides

Precautions for Fire Fighters and Special Protective Equipment:

Fire fighters to wear full protective clothing and self-contained breathing apparatus (SCBA) in confined spaces, oxygen deficient atmospheres or if exposed to products of decomposition. Cool down containers/ equipment exposed to heat with a water spray. If safe to do so, move undamaged containers from fire area. Avoid fire-fighting water entering the environment.

Flammability: Non-combustible.

## **6. ACCIDENTAL RELEASE MEASURES**

PRECAUTIONS:

Eliminate every possible source of ignition (open fire, sparks, smoking). Evacuate all personnel immediately and ventilate area. Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment. (See Section 8: Exposure Controls/Personal Protection)

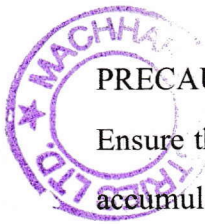
ENVIRONMENTAL PRECAUTIONS:

Shut off leaks if without risks. Dike in the spilled product as much as possible with inert material. Prevent entry of product in public water, sewers or soil. Notify authorities if product enters sewers or public waters. Spills may be reportable to the state and/or local agencies, the Environmental Protection Authority, or your local Waste Management Authority

METHODS FOR CLEANING UP:

Collect the spillage in closable, suitable disposal containers. Clean up any spills as soon as possible, using an inert absorbent material. For the removal of the waste product, Residue is to be washed down with plenty of water. Keep the recovered washings for subsequent disposal. (See Section 13 "Disposal Considerations").





## PRECAUTIONS FOR SAFE HANDLING

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands thoroughly after handling. Change contaminated clothes at the end of working shift. See also Section 8 for additional information on hygiene measures.

## CONDITIONS FOR SAFE STORAGE

Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.

Packaging materials:

Recommended: Stainless steel, Synthetic material, Polyethylene, Glass.

Not suitable: Carbon steel, Copper, Bronze.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:

No exposure standard allocated

Biological Limit Values:

No biological limit allocated.

Engineering Controls:

Provide exhaust ventilation or other engineering control, to ensure that the air is lower than the standard provisions of the relevant material concentration.

Exposures: Extraction to remove vapours at their source.

Personal Protection Equipment:

Eye/Face Protection: Eye contact should be prevented through use of safety glasses with side shields, splash proof goggles, and/or a full-face shield as appropriate. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken.



#### Hand Protection:

Protective gloves (Butyl rubber, Natural rubber, Nitrile rubber,).

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier /manufacturer and with a full assessment of the working conditions.

#### Respiratory Protection:

Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure.

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

#### Skin and Body Protection:

Wear protective clothing including long-sleeved clothing (i.e. shirts and pants) and chemical resistant apron where clothing is likely to be contaminated. Consideration must be given to both durability as well as permeation resistance. Launder contaminated clothing before reuse. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of matériel.

#### Workplace Hygiene Measures:

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

1. Wash as often as necessary.
2. Do NOT eat or drink in the workplace.

Collective emergency equipment: Personal protective equipment available close by in case of emergency. Emergency equipment, first-aid box with instructions readily available, safety shower and eye fountain for collective emergency.



Further information: The user is responsible for monitoring the working environment in accordance with local laws and regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

1. Appearance: Clear colorless liquid.
2. Odor: Odor of ammonia.
3. pH: 9.8 - 10
4. Boiling Point: Not available.
5. Congealing/Melting point: -11.5 °C
6. Decomposition temperature: 100 °C
7. Flash Point: Not applicable.
8. Flammability Limits: Not applicable.
9. Vapor pressure: Not available
10. Density: approx. 1.09 kg/L @ 20°C
11. Oxidizing properties: Not available.
12. Solubility in Water: Completely soluble.
13. Solubility in Organic Solvents: Soluble in Ethanol, Acetic acid, Hydrogen chloride.
14. Octanol/water partition coefficient: < 1

## 10. STABILITY AND REACTIVITY

### CHEMICAL STABILITY:

Stable under normal conditions of use.

### CONDITIONS TO AVOID:

High temperatures.

### INCOMPATIBLE MATERIALS:

Oxidizing agents, Acids, Bases, Alkalis, Nitrates, Hypochlorites.

### HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion products may include the following:

Carbon monoxide CO, carbon dioxide CO<sub>2</sub>, nitrogen oxides

### HAZARDOUS REACTIONS:

Hydrolysis will not occur





## **11. TOXICOLOGICAL INFORMATION**

### **Ingested:**

No significant health hazards identified.

### **Eye:**

No significant health hazards identified.

### **Skin:**

No significant health hazards identified.

### **Inhaled:**

No significant health hazards identified.

### **Acute Toxicity:**

Ingestion of this product may irritate the gastric tract causing nausea, vomiting and diarrhea.

May be slightly irritating to eyes with possible effects including redness, irritation and pain.

May be slightly irritating to skin with possible effects including redness, irritation and pain.

If misted or sprayed, inhalation may irritate the respiratory tract with effects including cough and shortness of breath.

### **Chronic Toxicity:**

No information available.

## **12. ECOLOGICAL INFORMATION**

### **Eco toxicity:**

Not classified as environmentally hazardous in accordance with the 'Approved Criteria for Classifying Hazardous Substances' [NOHSC (1008)/2004 as amended and adapted].

Biodegradability: Biodegradable.

Mobility: Product completely soluble in water.

Bioaccumulation: Bioaccumulation not expected.

Environmental Protection: Avoid contaminating waterways, drains or sewers.

## **13. DISPOSAL CONSIDERATIONS**

### **RESIDUES FROM PRODUCT**

Destruction/Disposal: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise



inappropriate. Dispose of in accordance with relevant national and local regulations, EPA requirements and safety regulations at an authorized site.

#### **14. TRANSPORT INFORMATION**

International transport regulations

Not classified as dangerous for transport (ADG, IMDG, ICAO /IATA).

ADG: Australian Code for the Transport of Dangerous Goods by Road and Rail

IMDG: International Maritime Organization Rules, rules governing shipment of goods by water

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association, the organization promulgating rules governing shipment of goods by air.

Special precautions for user

No known special precautions required. See Section: "Handling and storage" for additional information.

#### **15. REGULATORY INFORMATION**

Poison Schedule (Australia): Not scheduled

INVENTORY STATUS:

Inventory	Status
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Australia (AICS)	Y
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Y = all ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing

#### **16. OTHER INFORMATION**

Information contained herein was obtained from source considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazard, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.