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MATERIAL SAFETY DATA SHEET

PRODUCT

ROAD BIO

1. DESCRIPTION / PROPERTIES (nature, reactivity):

A non flammable low foaming aqueous cleaning agent designed for the removal of oil spills on roads and highways. For brush applications, use neat or diluted 1:20. For jetting / back pack applications, use at a dilution of between 4-8%.

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS NO	EINECS	% CONCENTRATION	HAZARD	RISK PHRASES	OES
Sodium metasilicate	6834-92-0	10213-79-3	0 → 5%	C	R34, 37	-
Trisodium nitrilotriacetate	5064-31-3	225-768-6	0 → 5%	X _n	R22, 36	-
2-(2-Butoxyethoxy) ethanol	112-34-5	203-961-6	0 → 5%	X _i	R36	-
Sodium Hydroxide	1310-73-2	215-185-5	0 → 2%	C	R35	OES
Alcohol Ethoxylate	*	*	5 → 10%	X _n	R22, 41	-
Quaternary fatty amine ethoxylate	*	*	5 → 10%	X _i , N	R41, 51/53	-

* Proprietary status pending

3. HAZARDS IDENTIFICATION

a) **Fire/Explosion Hazard (stability, flammability, combustion products):**

Not classified as flammable or combustible (Material is water based).

b) **Health Hazard (inhalation, ingestion, contact with skin or eyes):**

Risk of serious damage to eyes. Irritating to skin. As with all surface-active chemicals, care should be taken to avoid prolonged skin contact. The product is non-volatile and aqueous based so that inhalation risk is minimal.

c) **Environmental Hazard:**

Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

- INHALATION** - Low risk in normal usage. Remove to fresh air. Rest and keep warm.
- SKIN CONTACT** - Wash thoroughly with water. Remove contaminated clothing and launder before reuse.
- EYE CONTACT** - Irrigate with copious supply of clean water. Obtain medical attention.
- INGESTION** - Do not swallow, rinse mouth with water. If swallowed, drink water. Obtain prompt medical attention. Do not induce vomiting.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

Since the product is not combustible or flammable, if involved in a fire, use extinguishing media appropriate to the source of the fire.

Protection for fire fighters:

Wear self-contained breathing apparatus. Wear protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Mark out contaminated area with signs and prevent access to unauthorised personnel.

Environmental Precautions:

Prevent discharge of large quantities to drain or water courses.

Clean up Procedures:

Disperse small spillages with large excess of water. Large spillages - contain, absorb and pick up, place in sealed containers for disposal via licensed contractor. Wash down traces with excess of water.

7. HANDLING AND STORAGE

Handling:

Does not require any specific measures.

Storage:

May be stored for periods over six months in plastic containers as supplied.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits:

Component Name	Concentration in preparation	8 hour exposure limit	Short term exposure limit
Sodium Hydroxide	0 → 2%	-	2mgm ⁻³

References:

EH40/2002 Occupational Exposure Limits 2002

In normal usage this limit is unlikely to be exceeded. Avoid inhalation of mists and sprays.

Engineering Controls:

Provide eyewash station

Personal Protection:

Hand: Use protective gloves made of neoprene or nitrile.

Eyes: Wear safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pale liquid
Density at 20°C:	1.07
Vapour Pressure at 20°C:	Essentially water vapour
Solubility in water at 20°C:	Complete
pH Value:	>12
Flash Point:	None measurable

10. STABILITY AND REACTIVITY

Stability: Stable.

Materials to avoid: No known adverse reactions.

Hazardous decomposition products:

No typical hazardous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Health Effects

Respiratory:

Not likely to occur (material is aqueous based).

Skin:

May cause irritation on prolonged or repeated skin contact.

Eyes:

May cause irritation.

Ingestion:

Low acute toxicity. May cause irritation to mucous membranes in mouth, throat, stomach and intestinal canal.

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Toxicological Data

For individual components:

Component	Acute Toxicity
Sodium metasilicate	LD50 oral (rat): 1153mg/kg
Trisodium nitrilotriacetate	LD50 oral (rat): >2000mg/kg
2-(2-Butoxyethoxy ethanol)	LD50 oral (rat): >5660mg/kg
Alcohol ethoxylate	Oral: 200< LD50<2000mg./kg Dermal: LD50>2000mg/kg Inhalation: LC50>5mg/L
Quaternary fatty amine ethoxylate	LD50 oral (rat): <2000mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

For individual components:

Component	Acute Toxicity
Sodium metasilicate	EC50 (Daphnia: Daphnia magna) 24 h: 300 mg/L LC50 (Fish: Brachydanio rerio): 24h: 124mg/L
Trisodium nitrilotriacetate	LC50 96h (fish): >100mg/kg
Alcohol ethoxylate	Fish: 1< LC50<10mg/L Daphnia: 1< LC50<10mg/L Algae: 1< LC50<10mg/L
Quaternary fatty amine ethoxylate	LC50 96h (fish): 1-10mg/kg

Degradability

Degradability (5% solution): Biodegradable: COD2850mgL⁻¹
BOD (5 day) 4400mgL⁻¹ (71.9%)

Bioaccumulation:

No bioaccumulation is expected. The product is biodegradable and water-soluble.

13. DISPOSAL CONSIDERATION

Disposal Methods:

Incineration is recommended. Dispose of in accordance with local authority requirements.

14. TRANSPORT INFORMATION

Not classified as hazardous for transportation purposes.

15. REGULATORY INFORMATION



Irritant Xi

R36/38 Irritating to eyes and to skin.
R41 Risk of serious damage to eyes.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S26 In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing. Wear suitable gloves. Wear eye/face protection.

S23 Do not breathe vapour/spray (spray coat method).

S2 Keep out of the reach of children. (If the product can be purchased by anyone.)

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Regulatory Information

UK Regulatory References: The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
EH40/2002: Occupational Exposure Limits 2002.

EC Directives: Dangerous Preparations Directive (1999/45/EC).
Safety Data Sheets Directive (2001/58/EC).

Approved Code of Practice: The Compilation of Safety Data Sheets.

16. OTHER INFORMATION

PLEASE NOTE:

The above information is based on the present state of our knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to quality or specification of product. The user must satisfy himself that the product is entirely suitable.