HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

EB-A ACTIVATOR

Revision Date: 29-Nov-2010 **Revision Number:** 3

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name EB-A ACTIVATOR

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

Recommended Use Additive

Uses Advised Against No information available

Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone §45 - (EC)1272/2008	
Europe	**112**
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 2- H315
Serious Eye Damage / Eye Irritation	Category 2- H319

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

2. HAZARDS IDENTIFICATION

Classification Xn - Harmful.

Risk Phrases R22 Harmful if swallowed.
R36/38 Irritating to eyes and skin.

Label Elements

Hazard Pictograms

Signal Word **Warning**

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Contains

Substances	**CAS Number**
Triethanolamine	102-71-6

Precautionary Statements - EU (§28, 1272/2008)
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Triethanolamine	203-049-8	102-71-6	60 - 100%	Xi; R36/38	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of first aid measures

Inhalation If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

4. FIRST AID MEASURES

Eyes In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Ingestion Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Most Important symptoms and effects, both acute and delayed

May cause eye burns. May cause skin irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIREFIGHTING MEASURES

Extinguishing mediaó

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance of mixture

Special Exposure Hazards

Decomposition in fire may produce toxic gases.

Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.
See Section 12 for additional information

Environmental precautions

Prevent from entering sewers, waterways, or low areas.

Methods and material for containment and cleaning up

Contain spill with sand or other inert materials. Scoop up and remove. Isolate spill and stop leak where safe.

Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Wash hands after use. Launder contaminated clothing before reuse. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Store in a cool well ventilated area. Store in a dry location. Keep container closed when not in use. Store between 60 F (16 C) and 110 F (43 C).

Specific End Use(s)

Exposure Scenario No information available

Other Guidelines No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Triethanolamine	Not applicable	Not applicable	5 mg/m^3	Not applicable	5 mg/m^3

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Triethanolamine	Not applicable	Not applicable	Not applicable	5 mg/m^3	Not applicable

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

Exposure controls
Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment
Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Positive pressure self-contained breathing apparatus.
Hand Protection Impervious rubber gloves. Neoprene gloves. Polyvinylchloride gloves.
Skin Protection Rubber apron.
Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions Eyewash fountains and safety showers must be easily accessible.
Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Liquid
Odor: Ammonia
Color: Colorless to slight yellow
Odor Threshold: No information available

Property Remarks/ Method	Values
pH:	10.5
Melting Point/Range	No data available
Freezing Point/Range (C):	16°C
Boiling Point/Range	335°C
Flash Point Closed cup	179°C
upper flammability limit	8.5%
lower flammability limit	1.3%
Evaporation rate	< 1
Vapor Pressure	< 0.01 mmHg
Vapor Density	5.1
Specific Gravity	1.113
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	-2.53
Autoignition Temperature	324°C
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

Molecular Weight	149.19
VOC Content (%)	No data available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable
Chemical Stability
Stable
Possibility of Hazardous Reactions
Will Not Occur
Conditions to Avoid
None anticipated
Incompatible Materials
Strong oxidizers. Copper and copper alloys. Prolonged contact with aluminum. Zinc.
Hazardous Decomposition Products
Carbon monoxide and carbon dioxide. Oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
Acute Toxicity

Inhalation	Not a likely route of exposure. May cause respiratory irritation. May cause allergic respiratory reaction.
Eye Contact	May cause eye burns.
Skin Contact	May cause severe skin irritation. May cause an allergic skin reaction. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.
Ingestion	Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity Amines may form nitrosamines, a suspect carcinogen, if product is mixed with nitrates, nitrites, nitrogen oxides or other nitrosamines. Repeated overexposure may cause liver and kidney effects.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triethanolamine	> 4090 mg/kg	> 10000 mg/kg	No data available

12. ECOLOGICAL INFORMATION

Toxicity
Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Triethanolamine	EC50(72hr): 216 mg/l (Scenedesmus subspicatus)	TLM96: 11800 mg/l (Pimephales promelas) TLM96: 400-1000 mg/l (Lepomis macrochirus)	No information available	EC50(24 Hour): 1386 mg/l (Daphnia magna)

Persistence and degradability
Readily biodegradable

Bioaccumulative potential
Does not bioaccumulate

Mobility in soil
No information available

Results of PBT and vPvB assessment
No information available.

Other adverse effects
Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Method	Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging	Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable

RID

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable

ADR

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable

IATA/ICAO

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable

Special Precautions for User None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. REGULATORY INFORMATION

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

International Inventories

EINECS Inventory	This product, and all its components, complies with EINECS
US TSCA Inventory	All components listed on inventory or are exempt.
Canadian DSL Inventory	All components listed on inventory or are exempt.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Chemical Safety Assessment
No information available

16. OTHER INFORMATION

Full text of R-phrases referred to under Sections 2 and 3
R22 Harmful if swallowed.

R36/38 Irritating to eyes and skin.

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date:	29-Nov-2010
Revision Note	Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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End of Safety Data Sheet