



Amine Optimization

Specializing in Amine Unit Performance

Safety Data Sheet

Prepared in accordance with the United States Hazard Communication Standard: 29 CFR 1910.1200 (2012)

Revision date: 12-January-2018

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

Product name: Emulsion Breaker (EB)

Product code: EB-101

Synonyms: No synonyms

Primary product use: Emulsion breaker for amine units using liquid contactors

Supplier:
Amine Optimization Company (a Nexo Solutions division)
25003 Pitkin Road, Ste. A100
The Woodlands, TX 7736
UNITED STATES
Tel: 1-832-777-7066

Emergency Telephone Number: ChemTel 1-800-255-3924

2. HAZARDS IDENTIFICATION

GHS classification in accordance with Communication Standard 29 CFR 1910.1200
This material is considered hazardous by the OSHA Hazard Communication Standard

Flammable liquid - category 2
Acute Toxicity - category 2
Skin corrosion/irritation - category 2
Serious eye damage/ eye irritation - category 2
Carcinogenicity - category 2
Specific target organ toxicity (single exposure): oral [optic nerve] - category 1
Specific target organ toxicity (single exposure) [respiratory tract Irritation and narcotic effects] - category 3
Aquatic hazard (long-term) – category 2

GHS label elements



Signal Word Danger

Hazard Statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Causes serious eye irritation.
Causes skin irritation.
Suspected of causing cancer.
Causes damage to organs if swallowed. (optic nerve).
May cause respiratory irritation.
May cause drowsiness and dizziness.
Toxic to aquatic life with long lasting effects.

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response: Collect spillage. IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Store locked up, in a well-ventilated place. Keep cool, 30-90 F

Disposal: Dispose contents and container in accordance with all local, regional and national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Substance Name:	Cross-linked PO/EO-blocky polymer	25-35%
	Aromatic Naphtha	35-50%
	Butanol	5-15%
	Electrolyte (trade secret)	1%

Hazardous components: This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

4. FIRST AID MEASURES

General Advice:	Remove/Take off immediately all contaminated clothing
Eye contact:	Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention immediately if irritation develops and persists.
Inhalation:	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
Ingestion:	IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Most important symptoms and effects, both acute and delayed

Symptoms:	The possible symptoms known are those derived from the labelling (see Section 2). No additional symptoms known.
Note to physicians:	None known. Treat symptomatically.
Note to physicians:	None known. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Use dry chemical, CO ₂ , water spray (fog) or foam
Unsuitable Extinguishing Media:	Do not use water jet
Specific Hazards of chemical:	Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Specific hazards during firefighting and combustion:	In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO) Carbon dioxide (CO ₂)
Specific hazards during firefighting:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for firefighters:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard firefighting gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment.
Ensure adequate ventilation
Contain spill. Ensure adequate ventilation and wear appropriate personal protective equipment. Collect onto inert absorbent. Place in sealable container.
Do not allow to contaminate water sources or sewers.

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

For Non-Emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Emergency Personnel: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Methods and materials for containment and cleaning up:

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING/STORAGE

Advice on protection against fire explosion:

Observe the general rules of industrial fire protection

Advice on safe handling:

Use only with adequate ventilation and proper protective eyewear, gloves, and clothing.

Wash thoroughly after handling. Keep container closed.

Technical measures/precautions:

Keep in a cool, dry location away from heat, sparks and open flames. Store in original container. Keep container tightly closed.

Protective measures:

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

butanol US ACGIH 200 ppm (TWA (8h). 400 (STEL 15m)

OSHA PEL 400 ppm (TWA 8 h).

OSHA PEL 1989 400 ppm (TWA 8h). 500 ppm (STEL 15m)

xylene US ACGIH 100 ppm (TWA (8h). 150 (STEL 15m)

OSHA PEL 100 ppm (TWA 8 h).

OSHA PEL 1989 100 ppm (TWA 8h). 150 ppm (STEL 15m)

Notes:	If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 1th Circuit Court of Appeals, Amine Optimization recommends that these lower exposure levels be observed as reasonable worker protection. Consult local authorities for acceptable exposure limits. Only components of this product with established exposure limits appear in the box above.
Engineering measures:	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
<u>Personal protective equipment</u>	
Respiratory protection:	If airborne concentrations pose a health hazard, become irritating or exceed recommended limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements under 29 CFR 190.134.
Hand protection remarks:	Butyl Rubber, PVC or Neoprene.
Eye protection:	Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
Skin and body protection:	Protective clothing to minimize skin contact should be worn. Chemically resistant safety shoes. Wash contaminated clothing with soap and water and dry before reuse. Safety showers and eyewash stations should be provided in all area where this material is handled. Wear long sleeves to prevent repeated or prolonged skin contact
Hygiene measures:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid material
Color:	Ambar to dark brown
Odor:	Characteristic aromatic

Odor threshold:	Not tested.
pH:	Not tested.
Pour point:	Not Tested.
Initial boiling point:	Not available.
Flash point:	60 F Method: DIN 51758
Evaporation rate:	Not tested.
Flammability (solid, gas):	Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Upper explosion limit:	Not tested.
Lower explosion limit:	Not tested.
Combustion number:	Not applicable
Vapor pressure:	>1 [Air = 1]
Relative vapor density:	Not tested.
Density:	Approx. 0.98 g/cm ³ (80 F)
Bulk density:	Not applicable.
Water solubility:	Partially soluble, turbid (20°C)
Solubility in other solvents:	Not tested.
Partition Coefficient (n-octanol/water):	Not tested.
Auto-ignition temperature:	Not tested.
Decomposition temperature:	Not tested.
Kinematic viscosity:	Not tested.
Dynamic viscosity:	Not tested.
Oxidizing Properties:	Not applicable.
Minimum Ignition Energy:	Not tested.
Particle size:	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity:	No data is available for the products ingredients on normal use.
Chemical Stability:	Stable under normal conditions.
Possibility of hazardous reactions:	Under normal conditions, hazardous reaction will not occur.
Conditions to avoid:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials:	Oxidizing agents, reducing agents and strong mineral acids.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Butanol

LC50 Inhalation Vapor Rat >100 ppm 6 hours

LC50 Dermal Rabbit 6.29 g/Kg

LC50 Oral Rat 5000 mg/Kg

xylene

LC50 Inhalation Rabbit 5000 ppm 4 hours

LC50 Dermal Rabbit >1700 mg/Kg

LC50 Oral male Rat 3520 mg/Kg

LC50 Oral Rat 4300 mg/Kg

Skin corrosion/irritation:	No applicable data
Sensitization:	No applicable data
Mutagenicity:	No applicable data
Carcinogenicity:	No information available
IARC	Butanol 3, Xylene 3.
OSHA	Not listed
NTP	No listed
Specific target organ toxicity	Aromatic naphtha, Category 3, Route of exposure not applicable, narcotic effects Butanol, Category 3, Route of exposure not applicable, narcotic effects
Aspiration hazard	Aromatic naphtha aspiration hazard - category 1 Butanol naphtha aspiration hazard - category 1

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Toxicity:

Butanol Acute LC50 14000 µg/l Marine water Crustaceans

Crangon crangon 48 hours Acute LC50 14000 µg/l Fish Gambusia afinis 96 hours

Xylene Acute LC50 850 µg/l Marine water Crustaceans – Palaemonetes Pugio 48 hours

Toxicity to daphnia and

other aquatic invertebrates: Not tested.

Toxicity to algae: Not tested.

Persistence and degradability








Biodegradability Not available

Additional ecological information: No information available.

13. DISPOSAL CONSIDERATIONS

Disposable method:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewer.

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1993	UN1993	UN1993	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Contains: Methanol, Isopropanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Methanol, Isopropanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Methanol, Isopropanol)	FLAMMABLE LIQUID, N.O.S. (Contains: Isopropanol, Methanol)
Transport hazard class(es)	3  	3  	3  	3 
Packing group	II	II	II	II
Environmental hazards	Yes.	Yes.	Yes.	No.
Additional information	-	-	Emergency schedules (EmS) F-E S-E	-

14. TRANSPORT INFORMATION

Marine pollutant North-America NAERG: aromatic naphtha

15. REGULATORY INFORMATION**EPCRA- Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

This material does not contain any components with CERCLA RQ.

SARA 304 Extremely Hazardous Substance Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards: No SARA Hazards

SARA 302: No products found

SARA 313 Xylene CAS# 130-20-7 1 – 5%

Clean Water Act: Listed

Clean Water Act (CWA) 31: Xylene

16. OTHER INFORMATION

National Fire Protection Association (USA)



Disclaimer:

The information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Amine Optimization Company makes no warranties, expressed or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Amine Optimization's products for its particular application. NO EXPRESS OR IMPLIED WARRANTY IS MADE OF THE MERCHANTABILITY, SUITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE OF ANY PRODUCT OR SERVICE. Nothing included in this information waives any of Amine Optimization's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Amine Filtration products, are available upon request are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Amine Optimization Company. The information is provided solely for your information and consideration and Amine Optimization Company assumes no legal responsibility for use or reliance thereon. In the event of a discrepancy between the information on the non-English document and its English counterpart, the English version shall supersede.

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End of Safety Data Sheet