

Safety Data Sheet

Bio-Force

SDS Revision Date: 05/11/18

1. Identification

1.1. Product identifier

Product Identity

Bio-Force

Alternate Names

Specialty Additive

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

Intended use

See Technical Data Sheet.

Application Method

See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Suppliers Name

Valence Drilling Fluids, LLC
 PO Box 7174
 Edmond, OK 73083
 U.S.A.

Emergency

CHEMTREC (USA)

(800) 424-9300

24 hour Emergency Telephone No.

Chemtrec (800) 424-9300 (Within Continental U.S.)
 Chemtrec (703) 527-3887 (Outside Continental U.S.)

Customer Service: Valence Drilling Fluids, LLC

(405) 285-6454 (8 AM - 5 PM Monday to Friday, CST)

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Acute Tox. 4;H302

Harmful if swallowed.

Acute Tox. 4;H312

Harmful in contact with skin.

Acute Tox. 4;H332

Harmful if inhaled.

Skin Corr. 1B;H314

Causes severe skin burns and eye damage.

Eye Dam. 1;H318

Causes serious eye damage.

STOT SE 1;H370

Causes damage to organs. Specific Target Organs: (Not Available)

Aquatic Acute 1;H400

Very toxic to aquatic life.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Danger

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H370 Causes damage to organs.

H400 Very toxic to aquatic life.

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[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
 P235 Keep cool.
 P240 Ground / bond container and receiving equipment.
 P241 Use explosion-proof electrical / ventilating / light / equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302+352 IF ON SKIN: Wash with plenty of soap and water.
 P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.
 P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
 P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
 P307+311 IF exposed: Call a POISON CENTER or doctor / physician.
 P310 Immediately call a POISON CENTER or doctor / physician.
 P321 Specific treatment (see information on this label).
 P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P363 Wash contaminated clothing before reuse.
 P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.
 P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.
 P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Amine/Quat Package CAS Number: Proprietary	10 - 30	Acute Tox. 4;H302 Acute Tox. 4;H312 Skin Corr. 1B;H314 Acute Tox. 4;H332 Aquatic Acute 1;H400	[1]
Methanol CAS Number: 0000067-56-1	< 1.0	Flam. Liq. 2;H225 Acute Tox. 3;H331 Acute Tox. 3;H311 Acute Tox. 3;H301 STOT SE 1;H370	[1][2]
Isopropyl Alcohol CAS Number: 0000067-63-0	< 1.0	Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336	[1][2]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

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[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Move the exposed person to fresh air at once. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if any discomfort continues.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If chemical is swallowed, Call Physician Or Poison Control Center For Most Current Information. Ingestion is life threatening. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Victims Of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and SDS with victim to health professional.

4.2. Most important symptoms and effects, both acute and delayed

Overview	Acute: Severe irritation of the tissue that had contact with the product (skin, eyes, mucous membranes). Drowsiness, fatigue, confusion may be experienced after inhalation or ingestion of the material. Chronic: Methanol is eliminated slowly from the body. Therefore repeated exposures may build up to toxic levels in body tissues. Animal studies shows long term exposures to Methanol damages the CNS, kidneys or liver, skin disorders, and birth defects. Symptoms of Over Exposure by Route of Exposure: Methanol may be harmful if swallowed, inhaled, or injected into skin. Methanol can cause skin and eye irritation or damage. Methanol can be very irritating to mucous membranes and the respiratory tract. Inhalation: Inhalation of Methanol vapors may lead to irritation of the nose and throat. Symptoms of overexposure may include dizziness, coughing, headache, dyspnea, lachrymation, nausea and vomiting. Exposure to high concentrations of this material vapor may cause unconsciousness or death. Primary Routes of Entry: Inhalation, skin contact, eyes, ingestion. Target Organs: CNS, eyes, circulatory and respiratory systems. Contact With Skin or Eyes: Methanol is an eye and skin irritant. Splashes in the eye may cause eye irritation, redness, tearing, and temporary corneal damage or blindness. Skin Absorption: Methanol is absorbed through the skin and may result in effects similar to inhalation exposure. Ingestion: Ingestion of one to four ounces of Methanol can cause irreversible damage to the nervous system, blindness, or death. It cannot be made non-poisonous. Aspiration of the material into the lungs can cause chemical pneumonitis. Injection: Injection of Methanol can lead to redness and irritation of the surrounding tissue. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.
Inhalation	Harmful if inhaled.
Eyes	Causes serious eye damage.

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Skin Harmful in contact with skin. Causes severe skin burns and eye damage.
Ingestion Harmful if swallowed.

5. Fire-fighting measures

5.1. Extinguishing media

Dry chemical, foam or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

Handle all chemicals with care. Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Keep cool.

Ground / bond container and receiving equipment.

Use explosion-proof electrical / ventilating / light / equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

Explosion data: Empty containers retain product residue (liquid and/or vapor) and can be dangerous.

Oxidizing properties: None known.

Special fire-fighting procedures/equipment: Containers can build up pressure if exposed to heat (fire). As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Apply alcohol-type foam or all-purpose foam by manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires. Use water spray to keep containers cool.

ERG Guide No. 128

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Steps to be taken in case material is released or spilled: Extinguish any possible ignition source until the area is determined to be free from fire or explosion hazard. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

Special spill response procedures: In case of a transportation accident, contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

7. Handling and storage

7.1. Precautions for safe handling

Safe handling procedures: Handle all chemicals with care. Ground and bond containers when transferring materials.

Special packaging materials: Always keep in containers made of the same materials as the supply container.

The requirements of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations apply if the flashpoint is between 21°C and 32°C.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

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Handle containers carefully to prevent damage and spillage.

Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.

Incompatible materials: This substance is not compatible with strong oxidizing agents, acetyl bromide, alkylaluminum solutions, beryllium hydride, boron trichloride, with carbon tetrachloride and metals, chloroform and sodium or sodium hydroxide, cyanuric chloride, dichloromethane and air, diethylzinc, hydrogen and raney nickel catalyst.

Storage requirements: Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure			
CAS No.	Ingredient	Source	Value
0000067-56-1	Methanol	OSHA	TWA 200 ppm (260 mg/m ³)
		ACGIH	TWA: 200 ppm STEL: 250 ppm Skin
		NIOSH	TWA 200 ppm (260 mg/m ³) ST 250 ppm (325 mg/m ³) [skin]
		Supplier	No Established Limit
0000067-63-0	Isopropyl Alcohol	OSHA	TWA 400 ppm (980 mg/m ³) STEL 500 ppm
		ACGIH	TWA: 200 ppm STEL: 400 ppm Revised 2003,
		NIOSH	TWA 400 ppm (980 mg/m ³) ST 500 ppm (1225 mg/m ³)
		Supplier	No Established Limit
Proprietary	Amine/Quat Package	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data			
CAS No.	Ingredient	Source	Value
0000067-56-1	Methanol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0000067-63-0	Isopropyl Alcohol	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;
Proprietary	Amine/Quat Package	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory

No protection needed under normal use and conditions. Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

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Eyes	Safety glasses with side shields (or goggles).
Skin	Wear overalls to keep skin contact to a minimum. When contact is likely wear chemical resistant gloves and boots.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Emergency eye wash stations and deluge showers should be available in the work area. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Colorless-Slightly Yellow Liquid
Odor	Slight Amine/Fruity
Odor threshold	Not Measured
pH	6.0-9.0
Melting point / freezing point	Not Measured
Initial boiling point and boiling range	Not Measured
Flash Point	> 200°F (Closed-Cup)
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	> 1 (Air=1)
Specific Gravity	1.00-1.05
Solubility in Water	Soluble
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Extreme heat may cause product to decompose, producing acrid smoke and irritating fumes.

10.5. Incompatible materials

This substance is not compatible with strong oxidizing agents, acetyl bromide, alkylaluminum solutions, beryllium hydride, boron trichloride, with carbon tetrachloride and metals, chloroform and sodium or sodium hydroxide, cyanuric chloride, dichloromethane and air, diethylzinc, hydrogen and raney nickel catalyst.

10.6. Hazardous decomposition products

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High temperatures and fires may produce such toxic substances as carbon monoxide and carbon dioxide.

11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Amine/Quat Package - (Proprietary)	No data available	No data available	No data available	No data available	No data available
Methanol - (67-56-1)	143.00, Human - Category: 3	No data available	No data available	No data available	64,000.00, Rat - Category: NA
Isopropyl Alcohol - (67-63-0)	4,710.00, Rat - Category: 5	12,800.00, Rat - Category: NA	72.60, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	4	Harmful if swallowed.
Acute toxicity (dermal)	4	Harmful in contact with skin.
Acute toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Amine/Quat Package - (Proprietary)	Not Available	Not Available	Not Available

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Methanol - (67-56-1)	100.00, Pimephales promelas	10,000.00, Daphnia magna	16.912 (96 hr), Ulva pertusa
Isopropyl Alcohol - (67-63-0)	1,400.00, Lepomis macrochirus	100.00, Daphnia magna	100.00 (72 hr), Scenedesmus subspicatus

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Regulated	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	DOT Hazard Class: Not Applicable	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable
14.5. Environmental hazards			
IMDG	Marine Pollutant: Yes (Amine/Quat Package)		
14.6. Special precautions for user	No further information		

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.		
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.		
WHMIS Classification	D2B		
US EPA Tier II Hazards	Fire: No Sudden Release of Pressure: No Reactive: No Immediate (Acute): Yes Delayed (Chronic): No		
EPCRA 311/312 Chemicals and RQs (lbs):			



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Methanol (5,000.00)

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Isopropyl Alcohol

Methanol

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

Methanol

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Isopropyl Alcohol

Methanol

Pennsylvania RTK Substances (>1%):

Isopropyl Alcohol

Methanol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H336 May cause drowsiness and dizziness.

H370 Causes damage to organs.

H400 Very toxic to aquatic life.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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