



# Frac Ball



## Material Safety Data Sheet

### 1. IDENTIFICATION

**Material Use** Developed for use in the oil and gas industry for exploration, production and testing, and for use in high pressure and/or load-bearing equipment.

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### 3. COMPOSITION

The product is an aluminum alloy. Contains no substance classified as hazardous in concentrations, which should be taken into account according to EC directives.

### 5. FIRE FIGHTING MEASURES

**No specific instructions needed.** The product is nonflammable.

### 7. HANDLING & STORAGE

**Handling** During manufacturing of this product excessive heat may damage the microstructure of the product. Non-aqueous coolant (oil-based coolant) must be used during any machining process. Avoid exposing this product to excess heat.

**Storage** Safety aspects do not require any special precautions in terms of storage. Vacuum packaging is necessary to prevent exposure to moisture.

### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

When the product is exposed to a damp environment a small electrochemical reaction will occur and cause minor damage to the product surface.

Product can react with perspiration. Do not touch directly without gloves. Reaction products form as a trace amount of aluminum hydroxide. If product is handled directly, promptly wash hands with water.

### 2. HAZARDS IDENTIFICATION

**Health** The product is not classified as dangerous. No volatile constituents are present and the product may be safely handled.

**Fire** The product is nonflammable.

**Water** The product can easily react with water, and can release trace amounts of heat and hydrogen when exposed to H<sub>2</sub>O and temperatures in excess of 100° F

**Environment** The product is not considered dangerous to the environment.

### 4. FIRST AID MEASURES

**No specific instructions needed.** Skin contact: Transitory contact causes no damage to skin.

### 6. ACCIDENTAL RELEASE MEASURES

**No specific instructions needed.** The product is non-toxic, nonflammable and presents no danger to humans or the environment.



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### Material Safety Data Sheet (Cont'd.)

#### 9. PHYSICAL & CHEMICAL PROPERTIES

Appearance: Solid, metallic color  
Odor: Odorless

Melting point: ~1292° F  
Density: 0.09 - 0.10 lb/in<sup>3</sup>

#### 10. STABILITY & REACTIVITY

In the absence of H<sub>2</sub>O, the product is a stable aluminum alloy, with no chemical reactivity. When exposed to temperatures in excess of 100° F the product will react with water.

#### 11. TOXICOLOGICAL INFORMATION

**The product is not classified as dangerous according to Directive 1999/45/EC.**

This product is made from aluminum alloy. The alloy contains between 95 - 99% Al with the remainder of its composition includes small percentages of In, Sn, and Ga. The components are smelted into a solid alloy. All elements of the product are stable and will not cause harm to human beings or the environment.

##### Ecological Information

**The product is not considered dangerous for the environment.**

When the product reacts with water, the outcome mainly contains Al(OH)<sub>3</sub> which cannot dissolve in water. Additional elements of the dissolved compound exist as a simple substance that do not form water-soluble ions. Consequently, the product will not cause damage to water or the environment.

##### Disposal Considerations

Surplus products may be safely stored long term and retain efficacy for later use. Scrap metal produced during manufacturing can also be recycled and reused. Check with local regulations.

##### Transport Considerations

The product is classified as the fourth dangerous goods according to ADR/RID, IMDG or IATA.

##### Regulatory Information

In accordance with directive 67/548/EEC and 1999/45/EC, the product is not classified as dangerous, but needed to be labeled as risk phrase (R15 refers that contact with water liberates extremely flammable gases).

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