



Material Safety Data Sheet

Methylmagnesium bromide, 1.4M solution in toluene/THF

Section 1 - Chemical Product and Company Identification

MSDS Name: Methylmagnesium bromide, 1.4M solution in toluene/THF

Catalog Numbers: 37733-0000, 37733-1000, 37733-8000

Synonyms:

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

Company Identification: (USA) Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01

For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
75-16-1	Methyl magnesium bromide	17	200-844-1	F C	14/15 34
108-88-3	Toluene	63	203-625-9	F XN	11 38 48/20 63 65 67
109-99-9	Tetrahydrofuran	20	203-726-8	F XI	11 19 36/37

Text for R-phrases: see Section 16

Hazard Symbols:

F C



Risk Phrases: 11 14/15 19 34 48/20 63 65 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Reacts violently with water liberating extremely flammable gases. May form explosive peroxides. Causes burns. Harmful : danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause lung damage.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Possible risk of harm to the unborn child.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes,

occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Flammable liquid and vapor. May form explosive peroxides.

Extinguishing Media: Do NOT use carbon dioxide. Use dry chemical to fight fire. DO NOT USE WATER!

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool.

Section 7 - Handling and Storage

Handling: Use spark-proof tools and explosion proof equipment. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Handle under an inert atmosphere. Do not allow contact with water. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Store in a dry area. Flammables-area. Corrosives area. Water free area. Store under nitrogen. Store at room temperature.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

CAS# 75-16-1:

CAS# 108-88-3:

United Kingdom, WEL - TWA: 50 ppm TWA; 191 mg/m³ TWA
United Kingdom, WEL - STEL: 150 ppm STEL; 574 mg/m³ STEL

United States OSHA: 200 ppm TWA; 300 ppm Ceiling

Belgium - TWA: 50 ppm VLE; 191 mg/m³ VLE

France - VME: 100 ppm VME; 375 mg/m³ VME
France - VLE: 150 ppm VLE; 550 mg/m³ VLE

Germany: 50 ppm TWA; 190 mg/m³ TWA
Germany: skin

notation

Japan: 50 ppm OEL; 188 mg/m³ OEL

Malaysia: 50 ppm TWA; 188 mg/m³ TWA

Netherlands: 40 ppm MAC; 150 mg/m³ MAC

Russia: 50 mg/m³ TWA (vapour)

Spain: 50 ppm VLA-ED; 191 mg/m³ VLA-ED

CAS# 109-99-9:

United Kingdom, WEL - TWA: 50 ppm TWA; 150 mg/m³ TWA
United Kingdom, WEL - STEL: 100 ppm STEL; 300 mg/m³ STEL

United States OSHA: 200 ppm TWA; 590 mg/m³ TWA

Belgium - TWA: 200 ppm VLE; 599 mg/m³ VLE
Belgium - STEL: 100 ppm VLE; 300 mg/m³ VLE

France - VME: 50 ppm VME; 150 mg/m³ VME
France - VLE: 100 ppm VLE; 300 mg/m³ VLE

Germany: 50 ppm TWA; 150 mg/m³ TWA
Germany: skin notation

Japan: 200 ppm OEL; 590 mg/m³ OEL

Malaysia: 200 ppm TWA; 590 mg/m³ TWA

Netherlands: 100 ppm MAC; 300 mg/m³ MAC

Spain: 50 ppm VLA-ED; 150 mg/m³ VLA-ED
Spain: 100 ppm VLA-EC; 300 mg/m³ VLA-EC

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: light yellow - tan - dark brown

Odor: solvent odor

pH: Not available

Vapor Pressure: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: Not available

Autoignition Temperature: Not available

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature: Not available

Solubility in water: Reacts

Specific Gravity/Density: 1.020

Molecular Formula: CH₃BrMg

Molecular Weight: 119.24

Section 10 - Stability and Reactivity

Chemical Stability:	Stable. However, may decompose if exposed to moist air or water. Moisture sensitive. Light sensitive.
Conditions to Avoid:	Incompatible materials, light, ignition sources, contact with water.
Incompatibilities with Other Materials	Water, water, acids, alcohols.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, hydrogen bromide, oxides of magnesium.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 75-16-1: None listed CAS# 108-88-3: XS5250000 CAS# 109-99-9: LU5950000
LD50/LC50:	RTECS: Not available. RTECS: CAS# 108-88-3: Draize test, rabbit, eye: 870 ug Mild; Draize test, rabbit, eye: 2 mg/24H Severe; Draize test, rabbit, skin: 435 mg Mild; Draize test, rabbit, skin: 500 mg Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 400 ppm/24H; Inhalation, mouse: LC50 = 30000 mg/m ³ /2H; Inhalation, mouse: LC50 = 19900 mg/m ³ /7H; Inhalation, mouse: LC50 = 10000 mg/m ³ ; Inhalation, rat: LC50 = 49 gm/m ³ /4H; Oral, rat: LD50 = 636 mg/kg; Skin, rabbit: LD50 = 14100 uL/kg; . RTECS: CAS# 109-99-9: Inhalation, rat: LC50 = 21000 ppm/3H; Oral, rat: LD50 = 1650 mg/kg; .

Carcinogenicity: Methyl magnesium bromide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Toluene - IARC: Group 3 (not classifiable)
Tetrahydrofuran - ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans

Other: The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information. Possible teratogen.

Section 12 - Ecological Information

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE* (forbidden to ship via passenger air)	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE	ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE
Hazard Class:	4.3 (3)	4.3 (3)	4.3 (3)
UN	3399	3399	3399

Number:

Packing

Group:

USA RQ: CAS# 108-88-3: 1000 lb final RQ; 454 kg final RQ

USA RQ: CAS# 109-99-9: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F C

Risk Phrases:

R 11 Highly flammable.

R 14/15 Reacts violently with water liberating extremely flammable gases.

R 19 May form explosive peroxides.

R 34 Causes burns.

R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R 63 Possible risk of harm to the unborn child.

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 6A Keep under nitrogen.

S 8 Keep container dry.

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 43B In case of fire, use fire-fighting equipment on basis of sodium chloride, sodium bicarbonate (never use water).

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 46 If swallowed, seek medical advice immediately and show this container or label.

S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 75-16-1: Not available

CAS# 108-88-3: 2

CAS# 109-99-9: 1

Canada

CAS# 75-16-1 is listed on Canada's NDSL List

CAS# 108-88-3 is listed on Canada's DSL List

CAS# 109-99-9 is listed on Canada's DSL List

US Federal

TSCA

CAS# 75-16-1 is listed on the TSCA Inventory.

CAS# 108-88-3 is listed on the TSCA Inventory.

CAS# 109-99-9 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

R 11 Highly flammable.

R 14/15 Reacts violently with water liberating extremely flammable gases.

R 19 May form explosive peroxides.

R 34 Causes burns.

R 36/37 Irritating to eyes and respiratory system.

R 38 Irritating to skin.

R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R 63 Possible risk of harm to the unborn child.

R 65 Harmful: may cause lung damage if swallowed.

R 67 Vapours may cause drowsiness and dizziness.

MSDS Creation Date: 2/02/2004

Revision #2 Date 10/17/2005

Revisions were made in Sections: General revision.

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