



## Material Safety Data Sheet

### 1. Product and Company Identification

Product Name: NMR-SAMPLE 0.1% EB in CDCl<sub>3</sub>

Product Numbers: Z10270, Z10033, Z10120, Z10252, Z10121, Z10901, Z10911

Product use: NMR Standardization Solution

Manufacturer:

Bruker BioSpin AG  
Industriestrasse 26, CH-8117 Fällanden  
Switzerland

Technical Information: Tel.: +41 44 825 95 26 / 5 10 Fax.: +41 44 825 96 96  
Emergency Telephone number: +41 44 251 51 51 - Swiss Toxicological Information Center (24h)

### 2. Hazards Identification

EMERGENCY OVERVIEW: WARNING!  
IRRITANT TO SKIN, EYES AND RESPIRATORY PASSAGES.  
POSSIBLE CANCER HAZARD.  
HARMFUL IF SWALLOWED; OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM, LIVER AND REPRODUCTIVE EFFECTS.

Appearance/Odor: Clear colorless liquid with a characteristic ethereal odor.

Routes of Entry: Skin and eye contact and inhalation.

Carcinogenicity: NTP-Yes, Chloroform is "reasonably anticipated to be a human carcinogen"  
IARC-Yes, Chloroform and ethyl benzene are category 2B, "possibly carcinogenic to humans"  
OSHA-No

This material is considered hazardous by the OSHA Hazard Communication Standard.  
(29CFR1910.1200)



WHMIS Classification: Class D1B, D2A & D2B:

### 3. Composition/Information on Ingredients

Component	CAS#	% By Vol.
Chloroform-d	865-49-6	99.9
Ethyl benzene	100-41-4	0.1

Material Safety Data Sheet (ANSI Z400.1-2004)  
Version 1.0 (CAN) Prepared, October 3, 2006



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### **4. First Aid Measures**

**SKIN:** Remove contaminated clothing and shoes Wash with soap or mild detergent and water. Do not use solvents or thinners. Get medical attention if irritation occurs.

**EYES:** Hold eyes open and flush for at least 15 minutes with large amounts of water. Get immediate medical attention.

**INGESTION:** Do not induce vomiting. Give two glasses of water to dilute stomach contents. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**INHALATION:** Remove to fresh air immediately. If breathing is difficult administer oxygen. Get medical immediate attention.

### **5. Fire Fighting Measures.**

**EXTINGUISHING MEDIA:** Alcohol foam, carbon dioxide, dry powder, or water spray.

**SPECIAL FIRE FIGHTING PROCEDURES:** Emits toxic and corrosive fumes. Use self-contained breathing apparatus and full protective clothing.

### **6. Accidental Release Measures**

**SPILL AND LEAK PROCEDURES:** Wear appropriate personal protective equipment; contain spills onto inert absorbent and place in suitable containers.

### **7. Handling and Storage**

**STORAGE:** Store in original closed glass tube in an area away from strong acids and strong oxidizing agents. Do not store in direct sunlight. Keep in a well-ventilated area.

**HANDLING:** Do not heat, glass tube may rupture. Avoid skin and eye contact. Do not inhale vapor. Do not eat, drink or smoke in application area.



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### 8. Exposure Controls/Personal Protection

EXPOSURE LIMITS:

Component	CAS#	Exposure limits
Ethyl benzene	100-41-4	100 ppm TWA, 125 ppm STEL ACGIH
Chloroform-d	865-49-6	10 ppm TWA ACGIH

ENGINEERING CONTROLS: Use local exhaust ventilation.

RESPIRATORY PROTECTION: If airborne concentration exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements under 29 CFR 1910.134

SKIN PROTECTION: Wear clothing suitable to avoid skin contact.  
Use butyl rubber gloves. Check suitability recommendations by protective equipment manufacturers, especially towards chemical breakthrough resistance.

EYE PROTECTION: Safety goggles with side shields.

### 9. Physical and Chemical Properties

Properties below are for chloroform

PHYSICAL FORM: .....	Liquid
COLOR: .....	Clear colorless
ODOR: .....	Characteristic ethereal
FLASH POINT: .....	NA
BOILING POINT: .....	140 °F (60 °C)
IGNITION TEMPERATURE: .....	1795 °F (982 °C)
VAPOR PRESSURE: (20 °C) .....	213 mBar
VAPOR DENSITY: .....	4.1 g/l
VISCOSITY: .....	0.56 Pas
SOLUBILITY IN WATER: .....	0.82g/100g
DENSITY: .....	1.5 g/cm <sup>3</sup>



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### **10. Stability and Reactivity**

CHEMICAL STABILITY: Stable under normal conditions. Exposure to light may cause formation of HCl and decompose ethyl benzene

HAZARDOUS DECOMPOSITION PRODUCTS: Phosgene, carbon monoxide, carbon dioxide, HCl

INCOMPATIBILITIES: Strong caustics, chemically active metals, strong bases, ammonia and amines; may cause severe exothermic reactions.

### **11. Toxicology Information**

Chloroform: LD<sub>50</sub> oral rat: 908 mg/kg  
LC<sub>50</sub> inhal. rat: 47.7 g/m<sup>3</sup>/4h  
LCL<sub>0</sub> inhal. human: 25000 ppm/5 min.

Ethyl benzene: LD<sub>50</sub> oral rat: 3500 mg/kg  
LD<sub>50</sub> dermal rabbit: 17800 mg/kg  
LCL<sub>0</sub> inhal. rat: 4000 ppm/4 h.

Chloroform and ethyl benzene were carcinogenic and caused reproductive effects when tested on laboratory animals.

Overexposure may cause central nervous system and liver effects.

Product is an irritant to skin, eyes and respiratory passages.

### **12. Ecological Information**

No appreciable bioaccumulation is expected.

Avoid contamination of ground water or waterways.

### **13. Disposal Considerations**

Dispose of in accordance with Federal, State or Local regulations.

### **14. Transportation Information**

TDG/DOT Proper Shipping Name: TOXIC LIQUID, ORGANIC, N.O.S.

Contains chloroform

Class 6.1, UN 2810, Packing Group III



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### **15. Regulatory Information**

Product is for Research and Development purposes only as defined under the Toxic Substances Control Act (TSCA).

SARA Title III:

Chloroform is listed as an extremely hazardous substance with a RQ of 10 lbs.

Chloroform and ethyl benzene are listed as toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

Chloroform and ethyl benzene are on the California Proposition 65 list as substances known to the State of California to cause cancer.

**Note:** Entries under this section cover only those regulations typically addressed in the MSDS generating process, such as, TSCA, and EPCRA/SARA Title III.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

### **16. Other Information**

WHMIS LABEL:

IRRITANT TO SKIN, EYES AND RESPIRATORY PASSAGES.

POSSIBLE CANCER HAZARD.

HARMFUL IF SWALLOWED; OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM, LIVER AND REPRODUCTIVE EFFECTS.

This MSDS conforms to the American National Standard, ANSI Z400.1-2004

To the best of our knowledge, the information contained in this MSDS is accurate. It is intended to assist the user in his evaluation of the product's hazards, and safety precautions to be taken in its use. The data on this MSDS relate only to the specific material designated herein. We do not assume any liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.