


# Material Safety Data Sheet

Canada  
English

## Section 1. Chemical product and company identification

Product name	TMB Substrate; part of 'MMP-13, Human, ELISA system'		
Catalogue Number	RPN2621	 9 0 R P N 2 6 2 1	
Component Number	NIF2008		
Material uses	Industrial applications: Analytical chemistry. Research.		
Product type	Liquid.		
Validation date	27 April 2011		
Print date	28 April 2011		
Supplier	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921		
<u>In case of emergency</u>	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

## 2. Hazards identification

Physical state	Liquid.
Odor	Odorless.
Emergency overview	CAUTION!  COMBUSTIBLE LIQUID AND VAPOR.
Precautionary measures	Keep away from heat and flame.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
<u>Potential acute health effects</u>	
Eyes	May cause eye irritation.
Skin	May cause skin irritation.
Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
<u>Potential chronic health effects</u>	
Chronic effects	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Target organs	Not available.
Inhalation	No specific data.
Ingestion	No specific data.
Skin	No specific data.
Eyes	No specific data.
Medical conditions aggravated by over-exposure	None known.

See toxicological information (Section 11)



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### 3. Composition/information on ingredients

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

### Section 4. First aid measures

<b>Eye contact</b>	In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.
<b>Skin contact</b>	Wash with soap and water. Get medical attention if symptoms appear.
<b>Inhalation</b>	If inhaled, remove to fresh air. Get medical attention if symptoms appear.
<b>Ingestion</b>	Do not ingest. Get medical attention if symptoms appear.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### Section 5. Fire-fighting measures

<b>Flammability of the product</b>	Combustible liquid. 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.
<b>Extinguishing media</b>	
<b>Suitable</b>	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Not suitable</b>	Do not use water jet.
<b>Special exposure hazards</b>	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.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

<b>Personal precautions</b>	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 (see Section 8).
<b>Environmental precautions</b>	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).
<b>Methods for cleaning up</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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). Use spark-proof tools and explosion-proof equipment. 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.
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

### Section 7. Handling and storage

<b>Handling</b>	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
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<b>Storage</b>	Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). 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. 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.
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## Section 8. Exposure controls/personal protection

### Consult local authorities for acceptable exposure limits.

<b>Recommended monitoring procedures</b>	Product does not contain relevant quantities of materials with exposure values that have to be monitored.
<b>Engineering measures</b>	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
<b>Hygiene measures</b>	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.

### Personal protection

<b>Respiratory</b>	A respirator is not needed under normal and intended conditions of product use.
<b>Hands</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<b>Eyes</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
<b>Skin</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Environmental exposure controls</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Section 9. Physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Flash point</b>	Closed cup: 86.1°C (187°F)
<b>Flammable limits</b>	Lower: 1.3% Upper: 9.5%
<b>Color</b>	Colorless. / Clear.
<b>Odor</b>	Odorless.
<b>Boiling/condensation point</b>	81°C (177.8°F)
<b>Relative density</b>	1.033
<b>Vapor pressure</b>	0.039 kPa (0.29 mm Hg) [20°C]
<b>Vapor density</b>	3.4 [Air = 1]
<b>VOC</b>	0 % (w/w)
<b>Solubility</b>	Easily soluble in the following materials: cold water and hot water.

## Section 10. Stability and reactivity

<b>Stability</b>	The product is stable.
<b>Materials to avoid</b>	Reactive or incompatible with the following materials: oxidizing materials
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions of reactivity</b>	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Not considered to be a product presenting a risk of explosion.

## Section 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Not available.				
<b>Conclusion/Summary</b>	Very low toxicity to humans or animals.			

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Not available.						
<b>Synergistic products</b>	Not available.					



## Section 12. Ecological information

<b>Environmental effects</b>	No known significant effects or critical hazards.
<b>Partition coefficient: n-octanol/water</b>	Not available.
<b>Bioconcentration factor</b>	Not available.
<b>Other adverse effects</b>	No known significant effects or critical hazards.

## Section 13. Disposal considerations

<b>Waste disposal</b>	The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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 sewers.
<b>RCRA classification</b>	Not available.
<b>Disposal should be in accordance with applicable regional, national and local laws and regulations.</b>	
<b>Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.</b>	

## Section 14. Transport information

### International transport regulations

Not classified.

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## Section 15. Regulatory information

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

<b>WHMIS (Canada)</b>	Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
<b>Canadian lists</b>	<b>CEPA Toxic substances:</b> None of the components are listed. <b>Canadian ARET:</b> None of the components are listed. <b>Canadian NPRI:</b> None of the components are listed. <b>Alberta Designated Substances:</b> None of the components are listed. <b>Ontario Designated Substances:</b> None of the components are listed. <b>Quebec Designated Substances:</b> None of the components are listed.
<b>Canada inventory</b>	All components are listed or exempted.


### International regulations

<b>International lists</b>	<b>Australia inventory (AICS):</b> All components are listed or exempted. <b>China inventory (IECSC):</b> All components are listed or exempted. <b>Japan inventory:</b> All components are listed or exempted. <b>Korea inventory:</b> All components are listed or exempted. <b>New Zealand Inventory of Chemicals (NZIoC):</b> All components are listed or exempted. <b>Philippines inventory (PICCS):</b> All components are listed or exempted.
<b>Chemical Weapons Convention List Schedule I Chemicals</b>	Not listed
<b>Chemical Weapons Convention List Schedule II Chemicals</b>	Not listed
<b>Chemical Weapons Convention List Schedule III Chemicals</b>	Not listed



Section 16. Other information

The customer is responsible for determining the PPE code for this material.



Indicates information that has changed from previously issued version.

**History**

<b>Date of printing</b>	28 April 2011	<b>Date of previous issue</b>	07 April 2011
<b>Date of issue</b>	27 April 2011	<b>Version</b>	8

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

