SAFETY DATA SHEET

Conforms to EU Directive 91/155/EEC, as amended by 2001/58/EC - United Kingdom (UK)
English

1. Identification of the substance/preparation and company/undertaking

Product name **MabSelect Xtra™, 50 µL, 4 x 96 well**

Catalogue Number 28-9436-29

Product type Liquid.

Company/undertaking identification

Supplier
GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire HP7 9NA
England
+44 0870 606 1921

Emergency telephone number
Swedish Poisons Information Centre :
+46 (0)8 331 231

Person who prepared the MSDS : msdslifesciences@ge.com

United Kingdom (UK)
GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA
0870 606 1921

2. Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification R10

Physical/chemical hazards Flammable.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/preparation Preparation

Ingredient name	CAS number	%	EC number	Classification
Ethanol	64-17-5	14 - 19	200-578-6	F; R11
MabSelect (highly cross-linked agarose)	9012-36-6	-	232-731-8	Not classified.

See Section 16 for the full text of the R-phrases declared above.

Occupational exposure limits, if available, are listed in Section 8.

4. First-aid measures

First-aid measures

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion Do not ingest. Get medical attention if symptoms appear.

Skin contact Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation develops.

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Protection of first-aiders 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.

See Section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing media

Suitable Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable Do not use water jet.

Special exposure hazards Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
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.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilt 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).

Large spill Stop leak if without risk. Move containers from spill area. Approach the 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. 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 spilt product.

Small spill 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.

7. Handling and storage

Handling 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 vapour 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 earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended Use original container.

8. Exposure controls/personal protection

Ingredient name	Occupational exposure limits
ethanol	**EH40/2005 WELs (United Kingdom (UK), 8/2007).** TWA: 1920 mg/m³ 8 hour(s). TWA: 1000 ppm 8 hour(s).

Exposure controls

Occupational exposure controls Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: A respirator is not needed under normal and intended conditions of product use.
Hand protection	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. 1-4 hours (breakthrough time): butyl rubber, neoprene
Eye protection	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. Recommended: safety glasses with side-shields
Skin protection	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. Recommended: lab coat 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.
Environmental exposure controls	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.

9. Physical and chemical properties

General information

Appearance

Physical state	Liquid. [and Suspension]
Colour	solution : Colourless. / Suspension : White.
Odour	Sweetish. Alcohol-like. [Slight]
Odour threshold	180 ppm

Important health, safety and environmental information

Flash point	Closed cup: 38 to 43°C (100.4 to 109.4°F)
Explosive properties	Not considered to be a product presenting a risk of explosion.
Solubility	Easily soluble in the following materials: cold water and hot water.

10. Stability and reactivity

Stability	The product is stable.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Skin contact	May cause skin irritation.
Eye contact	May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ETHYL ALCOHOL	LD50 Intra-arterial	Rat	11 mg/kg	-
	LD50 Intraperitoneal	Rat	3600 ug/kg	-
	LD50 Intravenous	Rat	1440 mg/kg	-
	LD50 Oral	Rat	15010 mg/kg	-
	LD50 Oral	Rat	7060 mg/kg	-
	LDLo Dermal	Rabbit	20000 mg/kg	-
	LDLo Oral	Rat	7000 mg/kg	-
	TDLo Intraperitoneal	Rat	2.45 g/kg	-
	TDLo Intraperitoneal	Rat	1.5 g/kg	-
	TDLo Intraperitoneal	Rat	1.2 g/kg	-
	TDLo Intraperitoneal	Rat	1 g/kg	-
	TDLo Intraperitoneal	Rat	0.5 g/kg	-
	TDLo Intraperitoneal	Rat	3500 mg/kg	-
	TDLo Intraperitoneal	Rat	3000 mg/kg	-
	TDLo Intraperitoneal	Rat	2700 mg/kg	-
	TDLo Intraperitoneal	Rat	2500 mg/kg	-
	TDLo Intraperitoneal	Rat	2000 mg/kg	-
	TDLo Intraperitoneal	Rat	1000 mg/kg	-

	TDLo Intraperitoneal	Rat	1000 mg/kg	-
	TDLo Intraperitoneal	Rat	500 mg/kg	-
	TDLo Intraperitoneal	Rat	1.25 mg/kg	-
	TDLo Intravenous	Rat	0.5 g/kg	-
	TDLo Oral	Rat	6.4 g/kg	-
	TDLo Oral	Rat	5.25 g/kg	-
	TDLo Oral	Rat	3 g/kg	-
	TDLo Oral	Rat	2.5 g/kg	-
	TDLo Oral	Rat	2 g/kg	-
	TDLo Oral	Rat	0.72 g/kg	-
	TDLo Oral	Rat	0.5 g/kg	-
	TDLo Oral	Rat	0.4 g/kg	-
	TDLo Oral	Rat	10 mL/kg	-
	TDLo Oral	Rat	5 mL/kg	-
	TDLo Oral	Rat	4.8 mL/kg	-
	TDLo Oral	Rat	4.57 mL/kg	-
	TDLo Oral	Rat	4.44 mL/kg	-
	TDLo Oral	Rat	4 mL/kg	-
	TDLo Oral	Rat	12800 mg/kg	-
	TDLo Oral	Rat	5250 mg/kg	-
	TDLo Oral	Rat	5000 mg/kg	-
	TDLo Oral	Rat	4300 mg/kg	-
	TDLo Oral	Rat	1500 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
	LC50 Inhalation Vapour	Rat	124700 mg/m3	4 hours
	LC50 Inhalation Vapour	Rat	5900 mg/m3	6 hours

Conclusion/Summary Not available.

Potential chronic health effects

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.

Reproductive toxicity 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.

Over-exposure signs/symptoms

Inhalation No specific data.

Ingestion No specific data.

Skin No specific data.

Eyes No specific data.

Target organs Contains material which causes damage to the following organs: kidneys.
Contains material which may cause damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).

Other adverse effects Adverse symptoms include the following: kidney abnormalities, liver abnormalities
Adverse symptoms may include the following: central nervous system depression

12. Ecological information

Environmental effects No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
ETHYL ALCOHOL	-	Acute EC50 >100 ppm Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
	-	Acute LC50 5680 to 7392 mg/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours
	-	Acute LC50 13 to 16 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.8 g	96 hours
	-	Acute LC50 12720 ppm Fresh water	Fish - Fathead minnow - Pimephales promelas - 40 mm	96 hours
	-	Acute LC50 14200000 to 15100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30 days - 19.4 mm - 0.099 g	96 hours
	-	Acute LC50 13480000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile	96 hours

			(Fledgling, Hatchling, Weanling) - 4 to 8 weeks - 1.1 to 3.1 cm	
	-	Acute LC50 11000000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 to 10 cm	96 hours
	-	Acute LC50 10000000 to 11500000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 cm	96 hours
	-	Acute LC50 6772000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 6386000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 6325000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 6076000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 5577000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 3715000 to 4432000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
	-	Acute LC50 42000 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	4 days
	-	Acute LC50 25500 ug/L Marine water	Crustaceans - Brine shrimp - Artemia franchiscana - LARVAE	48 hours
	-	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours

Conclusion/Summary Not available.

Other ecological information

Biodegradability

Product/ingredient name	Test	Result	Dose	Inoculum
ETHYL ALCOHOL	-	100 % - Readily - 20 days	-	-

Conclusion/Summary Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanol	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
ethanol	-	0.66	low

Other adverse effects No known significant effects or critical hazards.

13. Disposal considerations

Methods of disposal The generation of waste should be avoided or minimised 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

European waste catalogue (EWC) 07 07 99

07 07 99 wastes not otherwise specified

Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

14. Transport information

International transport regulations

Not classified.

Remarks
IATA Special Provision A 58 - Aqueous solutions containing 24% or less alcohol by volume is not subject to these regulations.

15. Regulatory information

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Risk phrases	R10- Flammable.
Product use	Industrial applications.
Europe inventory	All components are listed or exempted.

Other EU regulations

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK)	R11- Highly flammable. R10- Flammable.
Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK)	F - Highly flammable

Indicates information that has changed from previously issued version.

History

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Notice to reader

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