

**MATERIAL SAFETY DATA SHEET**

REVISION DATE: 21/03/2011

EDITION DATE: 21/03/2011

SECTION 1 - PRODUCT IDENTIFICATION/MANUFACTURER**Trade name and synonym:** Human CYP 450 2E1 YR, Human recombinant cytochrome P 450**Catalog number:** M40012**CAS number:** Not Applicable**Brand:** SPI-Bio**Manufacturer:** BERTIN PHARMA
Parc d'Activités Pas du Lac
10 bis, avenue Ampère
F-78180 Montigny-le-Bretonneux, France**Telephone Number:** 33 (1) 39 30 62 60**Facsimile Number:** 33 (1) 39 30 62 99**E-Mail:** bioagent@bertinpharma.com**SECTION 2 – HAZARDS IDENTIFICATION****GHS Identification:** Not Applicable**Symbols:** Not Applicable**Warning mention:** Not Applicable**Hazard mention:** This product contains no hazardous constituents, or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC, and 93/112/EC.**Advance caution:****Prevention:** avoid breathing dust. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.**Intervention:**

In case of inhalation: remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen.

In case of eyes contact: flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers; call a physician.

In case of skin contact: flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

In case of ingestion: wash out mouth with water provided person is conscious. Call a physician.

Storage: keep tightly closed.**Elimination:** Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental**SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS****Chemical characterisation:** Yeast microsomes in Aqueous buffer with glycerol

Name of reagents

Ingredients	CAS#	Concentration	SARA 313
Tris	77-86-1		No
EDTA	60-00-4		No
Glycerol	56-81-5	20%	No

SECTION 4 – FIRST AID MEASURES**After Inhalation:** remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.**After Skin contact:** immediately wash skin with soap and copious amounts of water.**After eye contact:** immediately flush eyes with copious amounts of water for at least 15 minutes.**After swallowing:** wash out mouth with water provided person is conscious.**General Information:** call a physician

Information for Doctor: Show the product label or this MSDS.

SECTION 5 – FIRE FIGHTING MEASURES
Extinguishing media:

Suitable: water spray, carbon dioxide, dry chemical powder, or appropriate foam.

Special risks: None identified

Specific hazard(s): None identified

Special protective equipment for fire-fighters: None identified

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Procedure(s) of personal precaution(s): wear suitable laboratory protective equipment lab coats, gloves and safety glasses.

Measure for Environmental protection:

Methods for cleaning up: sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

SECTION 7 – HANDLING AND STORAGE
Storage:

Conditions of storage: Store at -80°C.

Handling:

Directions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Wear suitable protective clothing including laboratory overalls, safety glasses and gloves. Do not get in eyes, on skin, or on clothing. Do not breathe the vapour. Wash thoroughly after handling.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION
Component with exposure limits:
Exposure limits

Chemical Name)	CAS Number	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	56-81-5	15 mg/m ³ total dust 5 mg/m ³ respirable fraction		10 mg/m ³	

Engineering controls: eye shower and mechanical exhaust required.

General hygiene measures: Wash thoroughly after handling.

Personal protective equipment:

Respiratory protection: No required

In case of insufficient ventilation wear suitable respiratory equipment

Hand protection: compatible chemical-resistant gloves.

Eye protection: chemical safety goggles.

Body protection: protective clothing

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Frozen
Colour:	Slightly brown
Smell (odour):	Characteristic
pH value (at 25 °C):	6.8 - 7.4
Melting point (°C):	No data



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Boiling point (°C): No data
Flash point (°C): No data
Inflammability: No data
Vapour tension (°C): No data
Solubility in water: Soluble
Partition coefficient n-octanol/water: No data

SECTION 10 – STABILITY AND REACTIVITY

Stability: No decomposition if used according to the specifications

Conditions to be avoided: strong oxidizers.

Materials to avoid: Incompatible Material unknown

Chemical Stability: stable in normal conditions

Hazardous decomposition products: Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides

Risk of hazardous reaction: no hazardous reaction known

SECTION 11 – TOXICOLOGICAL INFORMATION

Ways of Exposure:

Skin Contact: no effect

Skin Absorption: unknown

Eye Contact: unknown

Inhalation: unknown

Ingestion: unknown

Adverse effects: unknown

Symptoms of overexposure: unknown

Acute toxicity:

The toxicological properties have not been fully evaluated

Sensibilization data: unknown

Carcinogenicity data: unknown

Toxicologicals effects for reproduction: unknown

Mutagenicity data: unknown

Corrosivity: unknown

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicology: Avoid release to the environment. The ecological effects have not been thoroughly investigated, but currently none have been identified.

Persistence and deterioration: unknown

Bioaccumulation: unknown

Mobility in the ground: unknown

Other harmful effects: unknown

SECTION 13 – DISPOSAL CONSIDERATION

Substance disposal:

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

SECTION 14 – TRANSPORT INFORMATION

Land transportation RID/ADR: No limitation for road transport

Maritime Transport IMDG: No limitation for sea transport

Air transportation IATA: No limitation for air transport



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Additional information: No additional information

SECTION 15 – REGULATORY INFORMATION

SARA Section 355 (extremely hazardous substances): None of the ingredients is listed.

SARA Section 313 (specific toxic chemical listings): None of the ingredients is listed.

TSCA (Toxic Substances Control Act): None of the ingredients is listed

Carcinogenesis (IARC/NIOSH): None of the ingredients is listed

SECTION 16 – OTHER INFORMATION

Warranty:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

Use of product: For R&D use only. Not for drug, household or other uses.