



In Vitro ADMET
Laboratories, Inc.

Material Safety Data Sheet

1. Identification of Substance/Preparation and of the company/undertaking

1.1 Product Name: Cryopreserved Human Hepatocytes, Suspension, Plateable, Inducible and Transporter Grade

1.2 Product Number(s): 82001 (Cryo, Suspension grade, male), 82002 (Cryo, Suspension grade, female), 82003 (Cryo, Pooled, Plateable, Inducible grade, male), 82004 (Cryo, Pooled Plateable, Inducible grade, female) and 82005 (Cryo, Pooled Plateable, Inducible grade, mixed gender), 82006 (Cryo, Plateable, Inducible grade, male or female), 82007 (Cryo, Transporter male or female), 82032 (Cryo, Suspension grade, male pool), 82033 (Cryo, Suspension grade, female pool), 82034 (Cryo, Suspension grade, mixed gender pool), 82107 (Cryo, Plateable, Inducible grade, P450 knock-down, male or female), 82108 (Cryo, Suspension grade, P450 knock-down, male or female), 82109 (Cryo, Plateable, control to P450 knock-down, male or female) 82110 (Cryo, Suspension, control to P450 knock-down, male or female)

1.3 Relevant identified uses of the substance or mixture and uses advised against

This material is sold for research and development purposes only. It is not for any human, human, therapeutic, or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use.

1.4 Company/Undertaking Identification

In Vitro ADMET Laboratories Inc.
IVAL
9221 Rumsey Road, Suite #8
Columbia, MD 21045 USA
Tel: (410) 869-9037; Fax: (410) 869-9034
Email: nola@invitroadmet.com

1.5 Emergency Telephone number

Nola Mahaney mobile (301) 233-0894
Kirsten Amaral mobile (919) 610-5595

Revision Date November 30, 2017

Version Cryo 1.8

2. Hazardous identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) DMSO ONLY: Flammable liquids (Category 4), H227

2.2 Human hepatocytes isolated from human male or female liver. Cryopreserved culture may contain 2-30% dimethylsulfoxide (DMSO) CAS #67-68-5. Refer to Chemical MSDS for DMSO.

Acute Toxicity:	No data available
Skin Corrosion/irritation:	No data available
Serious Eye damage/eye irritation:	No data available
Carcinogenicity:	No data available
Reproductive Toxicity:	No data available



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Sensitization: No data available
Target Organ Toxicity: No data available
Mutagenicity: No data available
Acute/Long term hazards to the aquatic environment: No data available

2.3 Label Elements

Signal Word None

Hazard Statements None

For Research Use only

This material is sold for research and development purposes only. It is not for any human, human, therapeutic, or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. Proper precautions and biological containment should be taken when handling cells of human origin. All human-based products should be non-hazardous and non-contagious.

Precautionary Statements

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection

Eyes: May cause eye irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

2.4 Other hazards

No information available

3. Composition/information on ingredients

Human hepatocytes isolated from human male or female liver. Frozen cultures may contain 2-30% dimethylsulfoxide (DMSO). Proper precautions and biological containment should be taken when handling cells of human origin. All human-based products should be non-hazardous and non-contagious.

Hazardous impurities None Known

4. First Aid Measures

4.1 First Aid Measures: General laboratory safety measures apply during handling and use.

In the event of exposure as listed below use the following guideline and consult your physician if necessary.

Skin Contact: Wash off immediately with plenty of soap and water.

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Inhalation: Move to fresh air, if not breathing give artificial respiration.

4.2 Most important symptoms and effects both acute and delayed

If you feel unwell, seek medical advice.

4.3 Indication of any immediate medical attention and special treatment needed

None known

5. Fire-fighting Measures



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5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons: None

5.2 Special hazards arising from the substance or mixture: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged onto drains. During a fire, smoke may contain the original material in addition to unidentified toxic or irritating compounds.

5.3 Advice for firefighters

Special protective equipment: Standard fire safety equipment and procedures should be followed.

Specific method: None.

6. Accidental Release Measures

6.1 Personal Precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes.

Advice for emergency responders: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment. Sweep up to prevent slipping hazard.

6.2 Environmental precautions: None known.

6.3 Methods for cleaning up: Contain the spill immediately and decontaminate using an effective disinfectant, such as a strong solution of concentrated bleach or >1% Amphyll solution or equivalent. Volume of disinfectant should not be less than 20% of the spill volume. Allow at least 10 minutes for neutralization. Absorb spill using suitable absorbent materials.

7. Handling and Storage

7.1 Precautions for safe handling: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.

7.2 Conditions for safe storage including any incompatibilities: Store at -160°C or below liquid nitrogen vapor phase. Liquid nitrogen vapor phase (Transit).

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure limit(s): No data available

8.2 Exposure controls

Occupational exposure controls: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.



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Personal protection equipment: Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use. IVAL, Inc. recommends the use of mask with splash shield, gloves, and lab coat.

Respiratory protection: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.

Hand protection: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.

Eye protection: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.

Skin and Body protection: Use personal protective equipment. Exercise appropriate precautions to prevent contact with skin, eyes, or mucous membranes and appropriate measures apply during handling and use.

Thermal Hazards: Avoid direct contact with liquid nitrogen and use personal protective equipment.

Environmental exposure controls: Materials should be handled in a certified biosafety cabinet.

Personal Protective Equipment:

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form: Frozen or thawed cells in medium

Color: Range from translucent pink to brownish when cells are thawed and suspended in the medium. Frozen state might appear pink to reddish in color.

Odor: None.

Odor Threshold: No information available.

pH: 7.35 - 7.45

Melting point/range: No information available.

Boiling point/range: No information available.

Flash point: No information available.

Evaporation Rate: No information available.

Flammability: No information available.

Explosion limits: No information available.

Vapor pressure: No information available.

Vapor density: No information available.

Relative density: No information available.

Water solubility: Completely miscible.

Partition coefficient (n-octanol/water): No information available.

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity: No information available.

Combustion/explosion hazards: Not hazardous.

Oxidizing properties: None.

9.2. Other information: None.

10. Stability and Reactivity

10.1 Reactivity: No information available.

10.2 Chemical stability: Stable under recommend storage conditions.



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10.3 Possibility of hazardous reactions: No information available.

10.4 Conditions to avoid: Not required.

10.5 Incompatible materials: None.

10.6 Hazardous decomposition products: None under normal use.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:	No data available.
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Germ cell mutagenicity:	No data available.
Carcinogenicity:	No data available.
Reproductive toxicity:	No data available.
STOT-single exposure:	No data available.
STOT-repeated exposure:	No data available.
Aspiration Hazard:	No data available.

11.2 Additional toxicological information

When used and handled according to specifications, the product does not have any harmful effects based on our experience. Proper precautions and biological containment should be taken when handling cells of human origin, due to their potential infectious nature.

12. Ecological Information

12.1 Toxicity

Ecotoxicity effect:	No data available
Biodegradation:	No data available
Bioaccumulation:	No data available
Further information on ecology:	No data available

12.2 Persistence and degradability No data available

12.3 Bioaccumulative potential No data available

12.4 Mobility in Soil No data available

12.5 Results of PBT and vPvB assessment No data available

12.6 Other adverse effects No data available

13. Disposable Considerations

13.1 Waste treatment methods



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Waste from residues/unused products: Dispose product in accordance with all federal, state and local environmental regulations for potentially infectious waste. In the case of contamination, dispose of as unused product.

Contaminated packaging: Dispose of as unused product

14. Transport Information

- 14.1 **UN Number:** None. Exempt Human Specimen.
- 14.2 **UN Proper Shipping name:** Non-hazardous, Non-contagious, non-regulated, Exempt Human Specimen
- 14.3 **Transport hazard class(es):** Not hazardous; Non-contagious, non-regulated,
- 14.4 **Packing Group, if applicable:** N/A
- 14.5 **Environmental hazards:** Not dangerous goods
- 14.6 **Special precautions for user:** No data available
- 14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** N/A
- 14.8 **DOT (US):** Proper Shipping Name: Non-hazardous, Non-contagious; Exempt Human Specimen
- 14.9 **IATA:** Proper Shipping Name: Non-hazardous, Non-contagious; Exempt Human Specimen
- 14.10 **IMDG:** Not dangerous goods

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulatory information: Not regulated

15.2 Chemical Safety assessment: Not required

15.2 Chemical Safety assessment: Not required

OSHA Hazards: No OSHA hazards

DSL Status: No DSL status

SARA Listed: No SARA listed

(COSHA)Catalog of Hazardous Chemicals in China (2002):

In accordance with China Occupational Safety and Health Association (COSHA)Catalog of Hazardous Chemicals in China (2002) specifically the listed compounds and/or substances; In Vitro ADMET Laboratories, Inc. certifies it does not contain dangerous compounds specified by Chinese government or include any compounds or substances listed in the product (s) listed above – Cryopreserved Human Hepatocytes.

Japan PDSC (Poisonous and Deleterious Substances Control Law):

In accordance with JISHA and the Enforcement Order of the Industrial Safety and Health Act Cabinet Order No. 318, August 19, 1972; specifically, the listed compounds and/or substances in Articles 16 and 17 of the Act; In Vitro ADMET Laboratories, Inc. certifies it does not contain dangerous compounds specified by Japanese government or include any compounds or substances listed in Articles 16 and 17 in the product (s) # listed above – Cryopreserved Human Hepatocytes.

Europe-REACH:

In accordance with the REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), In Vitro ADMET Laboratories Inc. (IVAL) certifies it does not contain dangerous compounds specified by Chinese government or include any compounds or substances listed in the product (s).



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16. Other Information

- Revision note** Safety datasheet sections which have been updated: 16
- Key or legend to abbreviations and acronyms** None
- Key literature references and sources for data** Information taken from reference works and the literature. Sources of key data used to compile the Safety Data Sheet: IUCLID; Toxnet; GHS (Rev.3) (2009)...

Classification procedure

This material is sold for research and development purposes only. It is not for any human, human, therapeutic, or clinical diagnostic use. It is not intended for food, drug, household, agricultural, or cosmetic use. An individual technically qualified to handle potential hazardous chemicals must supervise the use of this material.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may be present unknown hazards and should be used with caution. Since IVAL, Inc. cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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