

1. Product and Company Identification

Material name Invader® UGT1A1 Molecular Assay
Revision date 5/29/12
Revision Level 101
CAS # N/A
Product code 95-430
MSDS Number LBL-02524
Manufacturer/Supplier Hologic, Inc.
 502 S. Rosa Road
 Madison, WI 53719-1256 US
Telephone number: 608-273-8933
Emergency 3E Hotline 1-866-519-4752 CODE: 333605

2. Hazards Identification

Physical state Liquid.
Appearance Tubes filled with liquid contents.
Emergency overview CAUTION
 May cause eye irritation.
OSHA regulatory status This material is not considered hazardous by the OSHA Hazard Communication Standard, OSHA 29 CFR 1910.1200.
Potential health effects
Routes of exposure Eye contact. Skin.
Eyes May cause eye irritation. Exposed individuals may experience eye tearing, redness, and discomfort.
Skin Prolonged contact may cause dryness of the skin.
Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Ingestion Under normal conditions of intended use, this material does not pose a risk to health. However, ingestion may cause irritation and malaise.
Target organs Eyes.
Chronic effects No other specific acute or chronic health impact noted.
Signs and symptoms Eye contact: Contact may cause irritation with redness, tearing and pain.
 High concentrations: Inhalation: Cough. May cause irritation to mucous membranes. Ingestion: May irritate and cause malaise.
Potential environmental effects The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Glycerol (component of Invader® UGT1A1 Cleavase® Enzyme Solution, PN 22-1586)	56-81-5	< 30

Composition comments

Invader[®] UGT1A1 Molecular Assay contains tubes with the following names:
Invader[®] UGT1A1 TA Oligo Mix 1, PN 22-1582
Invader[®] UGT1A1 TA Oligo Mix 2, PN 22-1583
Invader[®] UGT1A1 TA Oligo Mix 3, PN 22-1584
Invader[®] UGT1A1 TA Oligo Mix 4, PN 22-1585
Invader[®] UGT1A1 Cleavase[®] Enzyme Solution, PN 22-1586
Invader[®] UGT1A1 Negative Control, PN 22-1600
Invader[®] UGT1A1 Positive Control, PN 22-1601
Invader[®] UGT1A1 Subtractive Blank Control, PN 22-1602
Invader[®] UGT1A1 No Target Control, PN 22-1603

Ingredients: Invader[®] UGT1A1 TA Oligo Mix 1, PN 22-1582, Invader[®] UGT1A1 TA Oligo Mix 2, PN 22-1583, Invader[®] UGT1A1 TA Oligo Mix 3, PN 22-1584, and Invader[®] UGT1A1 TA Oligo Mix 4, PN 22-1585

None of the constituents of this mix are considered hazardous per US, Canadian, and EU rules and regulations.

Ingredients: Invader[®] UGT1A1 Cleavase[®] Enzyme Solution, PN 22-1586
This mix contains < 30% Glycerol

Ingredients: Invader[®] UGT1A1 Negative Control, PN 22-1600, Invader[®] UGT1A1 Positive Control, PN 22-1601, Invader[®] UGT1A1 Subtractive Blank Control, PN 22-1602, and Invader[®] UGT1A1 No Target Control, PN 22-1603

None of the constituents of this mix are considered hazardous per US, Canadian, and EU rules and regulations.

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. If irritation occurs, get medical assistance.

Skin contact

Wash contact areas with soap and water. Get medical attention if irritation develops or persists.

Inhalation

Move to fresh air. Get medical attention if any discomfort occurs.

Ingestion

Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Never give anything by mouth to an unconscious person. Get medical attention if any discomfort continues.

Notes to physician

Treat symptomatically.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties

The product is not flammable.

Extinguishing media

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

No restrictions known.

Protection of firefighters

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Fire fighting equipment/instructions

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

Hazardous combustion products

Carbon oxides. Potassium chloride: During a fire, corrosive and toxic hydrogen chloride and/or chlorine gases, dipotassium oxide and other toxic and irritating fumes and gases may be formed by thermal decomposition.

6. Accidental Release Measures

Personal precautions

Avoid inhalation and contact with skin and eyes. Wear appropriate protective equipment and clothing during clean-up. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods for containment

Stop the flow of material, if this is without risk.

Methods for cleaning up

Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Never return spills to original containers for re-use.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage**Handling**

Avoid inhalation and contact with skin and eyes. Wear approved safety goggles. Observe good industrial hygiene practices.

Storage

Store in closed original container in a dry place. Store away from incompatible materials.

8. Exposure Controls / Personal Protection**Occupational exposure limits****US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	10 mg/m3	Mist.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	10 mg/m3	Mist.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	3 mg/m3	Respirable mist.
		10 mg/m3	Mist.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	10 mg/m3	Mist.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	10 mg/m3	Mist.

Mexico. Occupational Exposure Limit Values

Components	Type	Value	Form
Glycerol (component of 22-1586 Invader [®] UGT1A1 Cleavase [®] Enzyme Solution) (56-81-5)	TWA	10 mg/m3	Mist.

Engineering controls

Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist.

Personal protective equipment

Eye / face protection	Wear approved safety goggles.
Skin protection	For prolonged or repeated skin contact use suitable protective gloves. Risk of contact: Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	No protection is ordinarily required under normal conditions of use and with adequate ventilation. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Tubes filled with liquid contents.
Color	Colorless or slightly pink/purple
Odor	Odorless.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

10. Chemical Stability & Reactivity Information

Chemical stability	This product is stable under expected conditions of use.
Conditions to avoid	Multiple freeze/thaw cycles. Excessive heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects	May cause eye irritation. Prolonged contact may cause dryness of the skin.
Local effects	Ingestion may cause irritation and malaise.
Sensitization	Not a skin sensitizer.
Chronic effects	No other specific acute or chronic health impact noted.

Carcinogenicity	Not classified.
Epidemiology	Not available.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Neurological effects	Not available.
Reproductive effects	Contains no ingredient listed as toxic to reproduction.
Teratogenicity	Not available.
Symptoms and target organs	Eye contact: Contact may cause irritation with redness, tearing and pain. High concentrations: Inhalation: Cough. May cause irritation to mucous membranes. Ingestion: May irritate and cause malaise.
Further information	Not available.

12. Ecological Information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	The degradability of the product has not been stated.
Bioaccumulation / Accumulation	No data available on bioaccumulation.
Partition coefficient (n-octanol/water)	Not available.
Mobility in environmental media	The product is soluble in water.

13. Disposal Considerations

Waste codes	Not regulated.
Disposal instructions	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200.

TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)	No
Section 311/312 (40 CFR 370)	No
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled
WHMIS status	Non-controlled

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
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US - Massachusetts RTK - Substance: Listed substance

Glycerol (component of 22-1586 Invader[®] UGT1A1
Cleavase[®] Enzyme Solution) (CAS 56-81-5) Listed.

US - New Jersey RTK - Substances: Listed substance

Glycerol (component of 22-1586 Invader[®] UGT1A1
Cleavase[®] Enzyme Solution) (CAS 56-81-5) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Glycerol (component of 22-1586 Invader[®] UGT1A1
Cleavase[®] Enzyme Solution) (CAS 56-81-5) Listed.

16. Other Information

HMIS[®] ratings	Health: 1 Flammability: 0 Physical hazard: 0
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NFPA ratings	Health: 1 Flammability: 0 Instability: 0
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Disclaimer	THE INFORMATION CONTAINED IN THIS DOCUMENT RELATES TO THIS SPECIFIC MATERIAL AND MAY NOT BE VALID IF THE MATERIAL IS USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY ONESELF AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR HIS OR HER OWN PARTICULAR USE.
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