

7090 – Invertase

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 12/14/2015 Version: 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : 7090 - Invertase
Product form : Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Food industry: enzymatic preparation

1.3. Details of the supplier of the safety data sheet

LorAnn Oils, Inc.
4518 Aurelius Road
Lansing, MI 48910
Telephone: 1.800.862.8620

1.4. Emergency telephone number

Emergency number : CHEMTREC: Within USA and Canada: 1.800.424.9300 Outside USA and Canada: +1 703 527 3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Resp. Sens. 1 H334

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (GHS-US) : P285 In case of inadequate ventilation wear respiratory protection.
P261 Avoid breathing vapour.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311 If experience respiratory symptoms: Call a POISON CENTER or physician.
P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Fructofuranosidase, β -

2.3. Other hazards

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	%	Classification (GHS-US)
Glycerol CAS: 56-81-5	45 – 60	Not classified
Fructofuranosidase, β - CAS: 9001-57-4	1 - 10	Resp. Sens. 1, H334

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. In the event of any complaints or symptoms, avoid further exposure.
First-aid measures after skin contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
First-aid measures after 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.
First-aid measures after ingestion	: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2. Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: No specific data
Inhalation	: Adverse symptoms may include the following: wheezing and breathing difficulties asthma

Skin contact	: No specific data Prolonged or repeated skin contact may be irritating
Ingestion	: No specific data.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Small fire: Suitable – Use dry chemical or CO2 Not suitable – None known Large fire: Suitable – Use extinguishing media suitable for surrounding materials. Not suitable – None known
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5.2. Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: In case of fire, may produce toxic and/or corrosive decomposition products.

5.3. Advice for firefighters

Special protective actions for fire-fighters	: Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
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6.1.2. For emergency responders

Protective equipment	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in « For non-emergency personnel »
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6.2. 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).

6.3. Methods and material for containment and cleaning up

Small spills	: Stop leak if without risk. Move containers from spilt 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. Dispose of via a licensed waste disposal contractor.
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Large spills : 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 from disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note : see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4. Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures : 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. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store between the following temperatures: 4 to 8°C (39.2 to 46.4°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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.
Keep in a cool and dry place.

Suitable packaging materials : Polyethylene, high density (PEHD).

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker or exposure or environmental releases.

8.1. Control parameters

Occupational exposure limits

Glycerol	NAOSH (Ireland, 5/2010 OELV-8hr: 10 mg/m ³ 8 hours. Form: mist
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Occupational exposure limits

Recommended monitoring procedures	: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
DNELs/DMELs	: No DNELs/DMELs available
PNECs	: No PNECs available

8.2. Exposure controls

Appropriate engineering controls	: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	: 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.
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. >8 hours (breakthrough time): Nitril rubber, butyl rubber, neoprene, Viton®. Replace damaged gloves.
Eye/face protection	: Safety glasses with side shields.
Skin and body	: Chemical-resistant protective suit.

Advice on personal protection is application for high exposure levels. Select proper personal protection based on a risk assessment of the actual exposure situation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless to brown (product color may vary from batch to batch)
Odor	: Slight fermentation odor.
Odor threshold	: No data available
pH	: 3 to 7 (Concentration 100%)
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available

Solubility : Easily soluble in the following materials: cold water.
Log Pow : No data available
Log Kow : No data available

Viscosity, dynamic No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

This product is stable.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will no occur.

10.4. Conditions to avoid

No specific data.

10.5. Incompatible materials

No specific data.

10.6. Hazardous decomposition products

No specific data.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Product/ingredient name	
Fructofuranosidase, β-	LD50 Oral (Rat) >5000 mg/kg

Conclusion/Summary : Not available

Acute toxicity estimates : Not available

Irritation/Corrosion

Conclusion/Summary

Eyes : Not available

Skin : Not available

Respiratory : Not available

Sensitization

Conclusion/Summary

Skin : Not available

Respiratory : Not available

Mutagenicity

Conclusion/Summary

: Not available

Carcinogenicity

Conclusion/Summary

: Not available

Reproductive toxicity	: Not available
Teratogenicity	: Not available
Specific target organ toxicity (single exposure)	: Not available
Specific target organ toxicity (repeated exposure)	: Not available
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Eye contact – No known significant effects or critical hazards Inhalation – May cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin contact – No known significant effects or critical hazards. Ingestion – No known significant effect or critical hazards.
Symptoms related to the physical, chemical and toxicological characteristics	: Eye contact – No specific data. Inhalation – Adverse symptoms may include the following: wheezing and breathing difficulties. Asthma. Skin contact – No specific data. Ingestion – No specific data. General – Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. 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.

SECTION 12: Ecological information

12.1. Toxicity

Not available

12.2. Persistence and degradability

Not available

12.3. Bioaccumulative potential

12.4. Mobility in soil

Soil/water partition Coefficient (K_{oc}) : Not available

Mobility : Not available

12.5. Other adverse effects

PBT : Not applicable

vPvB : Not applicable

Other information : No known significant effects or critical hazards.

The preparation is believed not to be dangerous to the environment with respect to mobility, persistence and degradability, bio-accumulative potential, aquatic toxicity and other data relating to eco-toxicity.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Methods of disposal	: The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal the requirement of all authorities with jurisdiction. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Hazardous waste	: The classification of the product may meet the criteria for a hazardous waste.
Packaging	
Methods of disposal	: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Special precautions	: 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

UN number	
ADR/RID	Not regulated
ADN	Not regulated
IMDG	Not regulated
IATA	Not regulated
Environmental Hazard	Not regulated

Additional information

Special precautions for user	: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	: Not available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations.legislation specific for the substance or mixture

EU Regulation (EC) No. 1907-2006 (REACH)	
Annex XIV – List of substances subject to authorization	
Annex XIV	
None of the components are listed.	
Substances of very high concern	
None of the components are listed.	
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	
Not applicable	

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Other information

: **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H-phrases:

Resp. Sens. 1, H334	Respiratory sensitization – Category 1
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
R42	May cause sensitization by inhalation.

Abbreviations and acronyms

ATE	Acute Toxicity Estimate
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EUH statement	CLP-specific Hazard statement
PBT	Persistent, bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
RRN	REACH Registration number
vPvB	Very Persistent and Very Bioaccumulative