SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Name: Lonseal Lonsealer
Product Code(s): ZSEAL

1.2 Other Means of Identification

Not applicable

1.3 Recommended Use and Restrictions on Use

Product Use: Sheet vinyl flooring seam sealer (see Technical Data Sheet for additional details)
Product Restrictions: For use with sheet vinyl flooring only (see Technical Data Sheet for additional details)

1.4 Details of the Supplier of the Safety Data Sheet

Manufactured for: Lonseal, Inc.
Address: 928 E. 238th Street
Carson, CA 90745
(310) 830-7111

1.5 Emergency Phone Number

24 Hour Emergency Phone Number(s): INFOTRAC – U.S. & Canada: 1-800-535-5053
International: 1-352-353-3500

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the Substance or Mixture

Flammable Liquids, Category 2:	H225	Highly flammable liquid and vapor.
Acute Toxicity (Oral), Category 4:	H302	Harmful if swallowed.
Acute Toxicity (Dermal), Category 5:	H313	May be harmful in contact with skin.
Acute Toxicity (Inhalation), Category 4:	H332	Harmful if inhaled.
Skin Corrosion/Irritation, Category 2:	H315	Causes skin irritation.
Serious Eye Damage/Irritation, Category 2A:	H319	Causes serious eye irritation.
Carcinogenicity, Category 2:	H351	Suspected of causing cancer.
STOT SE, Category 2:	H371	May cause damage to organs.
STOT SE (Respiratory Tract Irritation), Category 3:	H335	May cause respiratory irritation.
STOT RE, Category 1:	H372	May cause damage to organs through prolonged or repeated exposure.

The most important adverse physicochemical, human health and environmental effects:
Delayed or immediate effects can be expected after short or long-term exposure.
The product is combustible and can be ignited by potential ignition sources.

2.2 Label Elements

Signal Word: DANGER

Hazard Statement(s):

H225	Highly flammable liquid and vapor.
H302+H332	Harmful if swallowed or if inhaled.
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

P101	If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No Smoking.
P233 Keep container tightly closed.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Disposal Statement(s)
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous Ingredients for Labelling: Tetrahydrofuran

2.3 Other Hazards

Results of PBT and vPvB Assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations:

Ingredient/Chemical Name	CAS Number	Weight %	Classification*
Tetrahydrofuran	109-99-9	75 – <90	Eye Irrit. 2: H319 (C ≥ 25%) STOT SE 3: H335 (C ≥ 25%)

*The full text of the GHS Hazards Statement may be found in Section 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of Necessary First-Aid Measures

General: Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.
Eyes: Rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Ingestion: Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell.
Inhalation: Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Mouth to mouth resuscitations should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus. In case of respiratory tract irritation, consult a physician.
Skin: Wash plenty of soap and water. If skin irritation occurs, get medical advice/attention.

4.2 Most Important Symptoms/Effects, Acute and Delayed

This information is not available.

4.3 Indication of Immediate Medical Attention and Special Treatment Needed

None

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media

Water spray, alcohol-resistant foam, fire extinguishing powder, carbon dioxide (CO_2)

Unsuitable extinguishing media: Water jet

5.2 Specific Hazards Arising from the Substance or Mixture

Hazardous Decomposition: See Section 10. In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits, and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous Combustion Products: carbon monoxide (CO), carbon dioxide (CO_2), and hydrogen chloride (HCl).

5.3 Special Protective Actions for Fire-Fighters

Use suitable breathing apparatus.

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

For non-emergency personnel: Wear protective clothing. Ventilate affected area. Wear suitable protective equipment (including personal protection equipment (PPE) referred to under Section 8) to prevent any contamination of skin, eyes, and personal clothing.

For emergency responders: Wear breathing apparatus if exposed to vapors/dust/spray/gases.

6.2 Environmental Precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and Materials for Containment and Cleaning Up

Advice on how to clean up a spill:
Collect spillage.
Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques:
Use of absorbent materials.

Other information related to spills and releases:
Place in appropriate container for disposal.
Ventilate affected area.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breath vapor/spray.

Measures to prevent fire, as well as aerosol and dust generation: Use local and general ventilation. Keep away from sources of ignition – no smoking. Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage vapors into cellars, flues, and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

Specific notes/details: Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits, and shafts, are particularly prone to the presence of flammable substances and mixtures. Vapors are heavier than air, spread along floors, and form explosive mixtures with air.

Measures to protect the environment: Avoid release to the environment.

Advice on general occupational hygiene: Do not eat, drink, and smoke in work areas. Wash hands after use. Preventative skin protection (barrier creams/ointments) is recommended. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Explosive atmospheres: Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

Flammability hazards: Keep away from sources of ignition – no smoking. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No Smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Protect from sunlight.

Incompatible substances of mixtures: See Section 10.

Protect against external exposure, such as: UV radiation/sunlight, contact with air/oxygen.

Consideration of other advice: Keep away from food, drink, and animal feeding stuffs.

General rule: Keep locked up and out of the reach of children.

Ventilation requirements: Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted. Provision of sufficient ventilation.

Specific designs for storage room or vessels: Keep container tightly closed and in a well-ventilated place. Store in a dry place.

Storage Temperature: ≥0 – 30 °C (≥32 – 86 °F)

Packaging compatibilities: Only packaging which is approved (e.g. according to ADR) may be used.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Relevant DNELs of components of the mixture:

Substance	Threshold Level	Protection goal, Route of exposure	Used In	Exposure Time
Tetrahydrofuran	72.4 mg/m^3	Human, Inhalatory	Worker (Industry)	Chronic – Systemic Effects
	150 mg/m^3	Human, Inhalatory	Worker (Industry)	Chronic – Local Effects
	12.6 mg/kg bw/day	Human, Dermal	Worker (Industry)	Chronic – Systemic Effects
	13 mg/m^3	Human, Inhalatory	Consumer (Private Households)	Chronic – Systemic Effects
	75 mg/m^3	Human, Inhalatory	Consumer (Private Households)	Chronic – Local Effects
	1.5 mg/kg bw/day	Human, Dermal	Consumer (Private Households)	Chronic – Systemic Effects
	1.5 mg/kg bw/day	Human, Oral	Consumer (Private Households)	Chronic – Systemic Effects

Relevant PNECs of components of the mixture:

Substance	Threshold Level	Environmental Compartment
Tetrahydrofuran	4.32 mg/L	Freshwater
	0.432 mg/L	Marine Water
	4.6 mg/L	Sewage Treatment Plant (STP)
	23.3 mg/kg	Freshwater Sediment
	2.33 mg/kg	Marine Sediment
	2.13 mg/kg	Soil

Tetrahydrofuran: PNEC Oral Predators 67 mg-kg food.

8.2 Appropriate Engineering Controls

General ventilation.

8.3 Individual Protection Measures, Including Personal Protective Equipment

Eye Protection: Short-term (single instance): not required.
Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Type: A-P2 (combined filters against particles and organic gases and vapors, color code: Brown/White).
Hand Protection: Protective gloves (check leak-tightness/impermeability prior to use):

Material	Breakthrough times of the glove material
FKM: fluoro-elastomer	Splash protection
NBR: acrylonitrile-butadiene rubber	Splash protection
IIR: isobutene-isoprene (butly) rubber	Splash protection

Environmental Exposure Controls: Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Colorless
Odor:	Like ether
Melting Point/Freezing Point:	<-45 °C (<-49 °F) (THF)
Boiling Point [or Initial Boiling Point and Range]:	65 °C (149 °F) (THF)
Flammability:	Flammable liquid in accordance with GHS criteria
Lower Explosion Limit:	1.5% (THF)
Upper Explosion Limit:	12% (THF)
Flash Point:	-21 °C (-5.8 °F) (DIN 51755)
Auto-Ignition Temperature:	230 °C (446 °F) (THF)
Decomposition Temperature:	>110 °C (>230 °F) (THF)
pH:	Not determined
Kinematic Viscosity:	Not determined
Solubility (in water):	Not miscible in any proportion
Partition Coefficient (n-octanol/water):	Not determined
Vapor Pressure:	173 hPa @ 20 °C (68 °F) (THF)
Density [or Relative Density]:	0.9 – 1 g/cm^3 @ 20 °C (68 °F)
Relative Vapor Density (Air = 1):	2.5 @ 20 °C (68 °F) (THF)
Particle Characteristics:	Not relevant (liquid)
Dynamic Viscosity:	40 – 1000 mPa

Other Information:
Information with regard to physical hazard classes: Flammable liquids
Sustained combustibility: Yes

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Risk of ignition.

10.2 Chemical Stability

See §10.4.

10.3 Possibility of Hazardous Reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. May form explosive peroxides.

10.4 Conditions to Avoid

Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

10.5 Incompatible Materials

Air, oxidizers, tin.

10.6 Hazardous Decomposition Products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill, and heating are not known. See Section 5 for hazardous combustion products.

SECTION 11 : TOXICOLOGICAL INFORMATION

Classification Procedure: If not otherwise specified, the classification is based on the ingredients of the mixture (additivity formula).

Acute Toxicity
Test data is not available for the complete mixture. Harmful if swallowed. Harmful if inhaled.

Substance	Exposure Route	Endpoint	Value	Species
Tetrahydrofuran	Oral	LD50	1650 mg/kg	Rat
	Dermal	LD0	>2000 mg/kg	Rat

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Skin sensitization: Classification count be established because data is lacking, inconclusive, or conclusive, but not sufficient for classification.

Respiratory sensitization: Classification count be established because data is lacking, inconclusive, or conclusive, but not sufficient for classification.

Germ cell mutagenicity: Classification count be established because data is lacking, inconclusive, or conclusive, but not sufficient for classification.

Carcinogenicity: Suspected of causing cancer.
Reproductive Toxicity: Classification count be established because data is lacking, inconclusive, or conclusive, but not sufficient for classification.

STOT SE: May cause respiratory irritation.

STOT RE: Classification count be established because data is lacking, inconclusive, or conclusive, but not sufficient for classification.

Aspiration hazard: Shall not be classified as an aspiration hazard.

Endocrine disrupting properties: None of the ingredients are listed.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic Toxicity (Acute): Test data not available for the complete mixture

Substance	LC50 fish (96h)	EC50 fish (96h)
Tetrahydrofuran	P. promelas 2160 mg/L	P. promelas 1930 mg/L

Aquatic Toxicity (Chronic): Test data not available for the complete mixture

Substance	Growth Rate (Er-Cx) 20% bacteria (30 min)	Growth Rate (Er-Cx) 3% algae (8d)	LOEC fish (33d)	NOEC fish (33d)
Tetrahydrofuran	Activated sludge 800 mg/L	S. quadricauda 3700 mg/L	P. promelas 367 mg/L	P. promelas 216 mg/L

12.2 Persistence and Degradability

Tetrahydrofuran
Process: Oxygen depletion
Degradation Rate: 39%
Time: 28d

12.3 Bioaccumulative Potential

Tetrahydrofuran
Log KOW: 0.45 (25 °C)

12.4 Mobility in Soil

No data available.

12.5 Other Adverse Effects

No data available.

Water Hazard Class 1 (Self-Assessment): Slightly hazardous for water

Results of PBT and vPvB Assessment: Not applicable

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal Methods

This material and its container must be disposed of as hazardous waste. Do not empty into drains. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself. Please consider the relevant national and regional provisions.

SECTION 14: TRANSPORT INFORMATION

	DOT/ADR	IMO/IMDG	ICAO/IATA
UN Number:	UN1133	UN1133	UN1133
UN Proper Shipping Name:	Adhesives	Adhesives	Adhesives
Transport Hazard Class(es):	DOT Hazard Class: 3	IMDG: 3 (sub-class: n/a)	Air Class: 3
Packing Group:	II	II	II

Environmental Hazards: Marine Pollutant: No

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: n/a

Special Precautions for the User:

Warning: Flammable liquids

ADR/DOT:

Special Provisions (SP): n/a
Expected Quantities (EQ): E2
Limited Quantities (LQ): 5L

IMO/IMDG:

Special Provisions (SP): n/a
Expected Quantities (EQ): E2
Limited Quantities (LQ): 5L
EmS: F-E, S-D
Stowage Category: B

ICAO/IATA:

Special Provisions (SP): A3
Expected Quantities (EQ): E2
Limited Quantities (LQ): 1L

SECTION 15: REGULATORY INFORMATION

National Inventories:

Australian Inventory of Chemical Substances (AICS) – Australia (AU): Tetrahydrofuran

Domestic Substances List (DSL) – Canada (CA): Tetrahydrofuran

Inventory of Existing Chemical Substances Produced or Imported to China (IECSC) – China (CN): Tetrahydrofuran

EC Substance Directory (EINECS/ELINCS/NLP) – European Union (EU): Tetrahydrofuran

List of Existing and New Chemical Substances (CSCL-ENCS) – Japan (JP): Tetrahydrofuran

National Inventory of Chemical Substances (INSQ) – Mexico (MX): Tetrahydrofuran

New Zealand Inventory of Chemicals (NZIoC) – New Zealand (NZ): Tetrahydrofuran

Philippine Inventory of Chemicals and Chemical Substances (PICCS) – Philippines (PH): Tetrahydrofuran

Chemical Inventory and Control Regulation (CICR) – Turkey (TR): Tetrahydrofuran

Taiwan Chemical Substance Inventory (TCSI) – Taiwan (TW): Tetrahydrofuran

Toxic Substances Control Act (TSCA) – United States of America (US): Tetrahydrofuran

Country	Inventory	Status
AU	AICS	All ingredients listed
CA	DSL	All ingredients listed
CN	IECSC	All ingredients listed
EU	ECSI	Not all ingredients listed
EU	REACH	Not all ingredients listed
JP	CSCL-ENCS	All ingredients listed
KR	KECI	All ingredients listed
MX	INSQ	All ingredients listed
NZ	NZIoC	All ingredients listed
PH	PICCS	All ingredients listed
TR	CICR	Not all ingredients listed
TW	TCSI	All ingredients listed
US	TSCA	All ingredients listed

Chemical Safety Assessment: No chemical safety assessment has not been carried out for this mixture by the supplier. Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: OTHER INFORMATION

Full Text of GHS Hazard Statements from Section 3:

H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Disclaimer: Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. This information relates only to the product designated herein, and does not relate to its use in combination with other materials or in any other process. The manufacturer makes no representations and assumes no liability for any direct, incidental, or consequential damages resulting from its use. The information herein is presented in good faith and based upon data from manufacturers or technical sources, and is believed to be accurate as of the revision date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State, or local laws. Conditions of use are beyond Lonseal's control and therefore users are responsible to verify this data under their own conditions to determine suitability for their purpose. Users of this product must comply with all applicable health and safety laws, regulations, and orders. Users of this product assume all risks of use, handling, and disposal, or from use of the information contained within this document.

General Statements:
Keep out of the reach of children.
For professional or industrial use only.
If you cannot read, or do not understand all directions, cautions, and warnings for this product, DO NOT use.

Abbreviations (may not actually appear within document)**:**

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	Accord européen relatief au transport international de marchandises Dangereuses par Route (European agreement for the international carriage of Dangerous goods by Road)
Asp.	Aspiration
ATE	Acute Toxicity Estimate
bw	Body Weight
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service
CFR	Code of Federal Regulations
CLP	Classification, Labeling, and Packaging
CMR	Carcinogenicity, Mutagenicity, and Toxicity for Reproduction

CNS	Central Nervous System
cSt	Centistokes
d	Day(s)
Dam.	Damage
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DNEL	Derived No Effect Level
DOT	Department of Transportation
EC	European Commission
EC0	Effective Concentration for 0% of Test Population
EC10	Effective Concentration for 10% of Test Population
EC50	Effective Concentration for 50% of Test Population
EC90	Effective Concentration for 90% of Test Population
EC100	Effective Concentration for 100% of Test Population
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ErC50	Effective Concentration for 50% of Test Population
ERG	Emergency Response Guidebook
EU	European Union
Flam.	Flammable
g	Gram(s)
GHS	Globally Harmonized System
h	Hour(s)
Haz.	Hazard
HMIS	Hazardous Materials Identification System
hPa	Hectopascal(s)
hr.	Hour(s)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
IOELV	Indicative Occupational Exposure Limit Values
Irrit.	Irritation
IUCLID	International Uniform Chemical Information Database
kg	Kilogram(s)
KOW	n-Octanol/Water Partition Coefficient
L	Liter(s)
lbs.	pounds
LC50	Lethal Concentration for 50% of Test Population
LC100	Lethal Concentration for 100% of Test Population
LD50	Lethal Dose for 50% of Test Population
Liq.	Liquid
LOEC	Lowest Observed Effect Concentration
LTEL	Long-Term Exposure Limit
m	Meter(s)
MAK	Maximale Arbeitsplatz-Konzentrazion (Maximum Workplace Concentration)
MARPOL	Maritime Pollution
mfg.	Manufacturer
mg	Milligram(s)
min	Minute(s)
mL	Milliliter(s)
mPa	Millipasacal(s)
Muta.	Germ Cell Mutagenicity
n/a	Not Applicable or Not Available
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NOEC	No Observed Effect Concentration
NTP	National Toxicology Program

n.o.s.	Not Otherwise Specified
OEL	Occupational Exposure Limits
OSHA	Occupational Safety and Health Administration
Pa	Pascal(s)
Pa-s	Pascal second(s)
PBT	Persistent Bioaccumulative and Toxic
PEL	Permissible Exposure Limit
PNEC	Predicted No Effect Concentration
PPE	Personal Protective Equipment
ppm	Parts Per Million
PVC	Polyvinyl Chloride
Repr.	Reproductive
Respir.	Respiratory
RQ	Reportable Quantities
RTK	Right-to-Know
SDS	Safety Data Sheet
Sens.	Sensitization
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity
STOT RE	Specific Target Organ Toxicity, Repeat Exposure
STOT SE	Specific Target Organ Toxicity, Single Exposure
TCC	Tagliabue Closed Cup
THF	Tetrahydrofuran
TLV	Threshold Limit Value
Tox.	Toxicity
TWA	Time Weighted Average
UN	United Nations
US	United States
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace Exposure Limit
WHMIS	Workplace Hazardous Materials Information System

Revision History:

6.1.2015	Initial SDS Release. SDS provided by mfg. was incorporated into Lonseal's letterhead/layout. Items contained within Section 16, from "DISCLAIMER" and below, are exclusive to Lonseal's version of the SDS.
8.5.2019	SDS formatting updated. Minor grammar and typo corrections. Revised to match most recent SDS provided by the manufacturer.
2.18.2020	Minor typo corrections.
3.13.2020	Minor formatting change to table in Section 12. Updated abbreviations list under Section 16.
2.23.2023	Information updated to match the most current SDS from the manufacturer.