



Safety Data Sheet

Original Preparation Date: 18-Jun-2009

Revision Date: 19-Feb-2018

Revision Number: 2

1. Identification

Product Name:

USP-NF Glycerin – Excipient/Food Use Only

Synonyms:

Glycerol. CAS 56-81-5. EINECS 200-289-5. ENCS 2-0242

Product Code:

051000

Use of the Substance / Preparation:

Food additive. / . Excipient.

Contact Manufacturer:

Archer Daniels Midland Company

4666 Faries Parkway

Decatur, IL 62526, USA

Telephone Number: (+1) 217-424-5200

Emergency response telephone number:

Chemtrec 1-800-424-9300 (CCN 1635)

2. Hazard(s) identification

Emergency Overview

Health injuries are not known or expected under normal use.

Appearance

Clear Colorless

Physical State

Liquid

Odor

Odorless

This product is NOT classified as hazardous according to the criteria contained in the Hazard Communication Standard 29 CFR 1910.1200 (known as HCS 2012) or the Hazardous Products Regulations SOR/2015-17 (known as WHMIS 2015). One or more of the product component(s) is known to be listed as an OSHA 29 CFR 1910.1000 Air Contaminant. Occupational exposure limits are subsequently provided in section 8 of this SDS.

3. Composition/information on ingredients

Molecular Formula

C₃ H₈ O₃

The following component(s) in this product are considered hazardous under applicable OSHA (USA), WHMIS (Canada), and/or NOM-002-SCT-2003 (Mexico) regulations (or require disclosure as an air contaminant)

Chemical Name	CAS-No	Weight %	North American Substance Hazard Class
Glycerin	56-81-5	99-100	29 CFR 1910.1000 Air Contaminant. (as respirable mist)

4. First-aid measures

Description of first aid measures

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

Skin Contact Wash off with soap and plenty of water.

Inhalation Move to fresh air.

Ingestion Clean mouth with water and afterwards drink plenty of water.

Most important symptoms and affects, both acute and delayed

Eyes Not expected to pose health issues for the eye.

Skin Based on available data, not, or only slightly irritating.

Inhalation Excessive inhalation of mist may result in respiratory irritation. When in the form of an airborne mist, refer to section 8 of this sheet for exposure limits pertaining to glycerin.

Ingestion Health injuries are not known or expected under normal use. Large oral doses may result in gastrointestinal disturbance.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

Flammable Properties

The product may ignite if exposed to heat or open flame.

Extinguishing media

Suitable Extinguishing Media Alcohol-resistant foam. Dry chemical. Carbon dioxide (CO₂) Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture

Hazardous Combustion Products Thermal decomposition can lead to release of irritating gases and vapors, Acrolein, Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical None known.

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Advice for fire-fighters

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA



Health 1
Flammability 1

Stability and Reactivity 0
Physical hazard None known

6. Accidental release measures

Personal Precautions, Protective Equipment, and Emergency Procedures

Ensure adequate ventilation.

Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Methods and Materials for Containment and Cleaning Up

Dam up. Soak up with inert absorbent material. Prevent product from entering drains. Pick up and transfer to properly labelled containers.

7. Handling and storage

Handling

Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Storage

Store at temperatures above 18°C / 64°F. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

8. Exposure controls/Personal protection

Exposure Limits

Components with workplace control parameters.

Chemical Name	ACGIH TLV	OSHA PEL	Mexico	NIOSH
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Glycerin	TWA: 10 mg/m ³ mist	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction	TWA: 10 mg/m ³ (LMPE-PPT) mist	
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Biological Limit Values

No biological limit values have been listed for the component(s) of this product.

Appropriate Engineering Controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits. However it is the duty of the user to verify this and follow given exposure limits at the workplace.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment**Eye/face Protection.**

If exposed to airborne dust, appropriate safety glasses with side-shields or safety goggles are recommended.

Skin and Body Protection

Long sleeved clothing. Protective gloves.

Respiratory Protection

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.



9. Physical and chemical properties

Appearance	Clear Colorless
Physical State	Liquid
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Flash Point	Approx. 199 °C / 390 °F
Autoignition Temperature	393 °C / 739 °F
Boiling point	290 °C / 554 °F
Melting/Freezing Point	18 °C / 64 °F
Decomposition temperature	No information available
Oxidizing Properties	No information available
Molecular Weight	92.09 g/mol
Water Solubility	Miscible
Evaporation Rate	No information available
Vapor Pressure	1.0033 hPa @ 50°C
Vapor Density	No information available
Specific Gravity / Relative Density	> 1.249
Partition Coefficient (n-octanol/water)	-1.76

10. Stability and reactivity

Stability Stable under normal conditions.

Possibility of Hazardous Reactions Hazardous polymerization does not occur.

Conditions to Avoid Extremes of temperature and direct sunlight.

Incompatible Materials Strong oxidizing agents.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO₂). Acrolein.

11. Toxicological information

Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.			
Chemical Name	Weight %	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerin	99-100	12600 mg/kg Rat	21900 mg/kg Rat	LC50 >2.75 mg/L Rat 4 hour
Skin corrosion/irritation	Based on available data, not, or only slightly irritating.			
Serious eye damage/eye irritation	Based on available data, no evidence of serious eye damage / irritation.			
Respiratory or skin sensitisation	Based on available data, not expected to be a skin or respiratory sensitiser.			
Germ cell mutagenicity	There is no in vitro or in vivo data that indicates glycerol to have a genotoxic potential.			
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.			
Reproductive toxicity	Based on available data, no evidence of reproductive toxicity.			
STOT - single exposure	Based on available data, the classification criteria are not met. No evidence of toxicity.			
STOT - repeated exposure	Based on available data, the classification criteria are not met. Repeated oral exposure by gavage to glycerol does not induce adverse effects other than local irritation of the gastro-intestinal tract. Glycerol inhalation exposure, irritant effects have been observed at 662 mg/m ³ . At very high exposure levels glycerol mist may be injurious to the kidneys (Campanacci 1965/Ex. 1-1047). NIOSH (Ex. 8-47) states that, at high concentrations, exposure may cause hemolysis, hemoglobinuria, and renal failure. No other target organ involvement was identified.			
Aspiration hazard	Based on available data, no known aspiration hazard.			

Potential health effects**Eyes**

Not expected to pose health issues for the eye.

Skin

Based on available data, not, or only slightly irritating.

Inhalation

Excessive inhalation of mist may result in respiratory irritation. When in the form of an airborne mist, refer to section 8 of this sheet for exposure limits pertaining to glycerin.

Ingestion

Health injuries are not known or expected under normal use. Large oral doses may result in gastrointestinal disturbance.

12. Ecological information

Ecotoxicity

Contains no substances known to be hazardous to the environment. Contains no substances known to be not degradable in waste water treatment plants.

Chemical Name	Fresh Water Algae	Acute Fish Toxicity	Daphnia (Water flea)	Effects on micro-organisms	Other
Glycerin		LC50: 96h 51 - 57mL/L (Oncorhynchus mykiss) static	EC50: 24h 500 mg/L (Daphnia magna)		

Chemical Name	log Kow	BCF
Glycerin	-1.76	

Persistence/Degradability

Readily biodegradable

Mobility

Miscible with water.

PBT and vPvB assessment

Based on the very low log Kow of -1.76, glycerol is not expected to bioaccumulate significantly.

Other adverse effects

Nothing specific known.

13. Disposal considerations

Whenever possible, as rules and regulations allow, please recycle or manage materials to minimize waste.

Waste Disposal Methods

Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. Should not be released into the environment.

14. Transport information

Domestic transport regulations (USA)

DOT Not regulated

Domestic transport regulations (Canada)

TDG Not regulated

Domestic transport regulations (Mexico)

MEX Not regulated

International transport regulations

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

International Inventories

The components of this product are reported in the following inventories:

Chemical Name	TSCA	DSL	NDSL	ICL	EINECS	ELINCS	AICS
Glycerin	Yes	Yes	No	No	Yes 200-289-5	No	Yes

Chemical Name	ENCS ISHL	CHINA	PICCS	KECL	Taiwan	Turkey	NZIoC
Glycerin	Yes (7)-338 (2)-242	Yes	Yes	Yes Annex 1 (KE-29297)	Yes	Yes 200-289-5	Yes

USA

Federal Regulations

Ozone Depleting Substances:

No Class I or Class II material is known to be used in the manufacture of, or contained in, this product.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 372.

CERCLA/SARA 103-302

Sections 103-302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 103-302.

SARA 311/312 Hazardous Categorization

Refer to the OSHA hazard classification(s) provided in section 2 of this SDS.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 63)

This product is not known to contain any HAPS.

State Regulations

California Proposition 65

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would require a warning under the statute.

State Right-to-Know

Component Information.

Chemical Name	Weight %	Massachusetts	Minnesota	New Jersey	Pennsylvania
Glycerin	99-100	Yes	Yes	Yes 3319	Yes

Canada

(NPRI) Canadian National Pollutant Release Inventory

Component Information

Chemical Name	Weight %	NPRI
Glycerin	99-100	Part 4 Substance

16. Other information

Prepared By: ADM Fuels & Industrials
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Revision Number: 2
Reason for revision: Product name / code has changed. This version replaces all previous versions.

Abbreviations and acronyms

A1 - Known Human Carcinogen
 A2 - Suspected Human Carcinogen
 A3 - Animal Carcinogen
 A4 - Not classifiable as a human carcinogen
 ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values
 CAS - Chemical Abstract Service
 Ceiling - Ceiling Limit Value: Concentrations that should never be exceeded at any given time (instantaneous)
 CHINA - Chinese Inventory of Existing Chemical Substances (China)
 CLP - Classification, Labelling and Packaging, Regulation (EC)1272/2008
 CSA - Chemical Safety Assessment
 CSR - Chemical Safety Report
 Delisted - Substances Delisted from Report on Carcinogens
 DNEL - Derived No Effect Level
 DOT - U.S. Department of Transportation
 DSL - Domestic Substance List (Canada)
 EC - European Commission
 EC No. - European Community number
 EC50 - Half maximal effective concentration
 EINECS - European Inventory of Existing Commercial Chemical Substances (EU)
 ELINCS - European List of Notified Chemical Substances (EU)
 ENCS - Existing and New Chemical Substances (Japan) / ISHL - Industrial Health and Safety Law (Japan)
 EPCRA - Emergency Planning and Community Right-to-Know Act of 1986 (USA)
 FOSFA - The Federation of Oils, Seeds and Fats Associations
 GHS - Globally Harmonized System of Classification and Labelling of Chemicals
 Group 1 - Carcinogenic to Humans
 Group 2A - Probably Carcinogenic to Humans
 Group 2B - Possibly Carcinogenic to Humans
 Group 3 - Not Classifiable
 IARC - International Agency for Research on Cancer
 IATA - International Air Transport Association Dangerous Goods Regulations
 IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 ICAO - International Civil Aviation Organisation
 ICL - In Commerce List (Canada)
 IDLH - Immediately Dangerous to Life or Health
 IMDG - International Maritime Dangerous Goods Code

IMO - International Maritime Organization
IUB - International Union of Biochemistry and Molecular Biology
KECL - Korean Existing and Evaluated Chemical Substances (Korea)
Known - Known Carcinogen
LC50 - Lethal concentration that produces fatalities in 50% of a given test population
LD50 - Median lethal dose of a given test population
Marpol - International Convention for the Prevention of Pollution From Ships
MEPC - Marine Environment Protection Committee
MEX - NOM-002-SCT/2003 List of Hazardous Substances and Materials Most Commonly Transported
MEXICO - Mexico Occupational Exposure Limits
NDSL - Non Domestic Substances List (Canada)
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOAEL - No Observed Adverse Effect Level
NTP - National Toxicology Program
NZIoC - New Zealand Inventory of Chemicals (New Zealand)
OECD - Organisation for Economic Co-operation and Development
OSHA - Occupational Safety & Health Administration
OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits
PICCS - Inventory of Chemicals and Chemical Substances (Philippines)
PNEC - Predicted No-Effect Concentration
Present - Carcinogen or potential carcinogen to be identified under OSHA's Hazard Communication Standard
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
SEN - Sensitizer notation. May reflect risk of dermal and/or inhalation sensitization (consult ACGIH documentation).
Skin notation - Potential for cutaneous absorption
STEL - Short Term Exposure Limit: Concentrations that should not be exceeded except for short periods of time (usually 15-minutes)
STOT - Specific Target Organ Toxicity
STV - Short Term Value (same as STEL)
TDG - Transportation of Dangerous Goods (Transport Canada)
TSCA - Toxic Substances Control Act, Section 8(b) Inventory (USA)
TWA - Time Weighted Average: Average concentration that should not be exceeded during a work day (usually 8-hours)
Under Consideration - Under Consideration by the National Toxicology Program
vPvB - Very Persistent and Very Bioaccumulative
WHMIS - Workplace Hazardous Materials Information System

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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