

SECTION 1. IDENTIFICATION

Product identifier

Trade name : Verdad® F95

Recommended use of the chemical and restrictions on use

Recommended use : Intended for food use

Manufacturer or supplier's details

Company name of supplier : PURAC America Inc.
Address : 8250 Flint Street
Lenexa KS 66214
USA
Telephone : +18006694092
Telefax : +19138884970
E-mail address of person responsible for the SDS : sds@corbion.com

Emergency telephone number

CHEMTREC: +1 703-741-5970 / 1-800-424-9300 CCN#18135

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Eye irritation : Category 2A

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
Fermented Sugar (containing sodium propionate from fermentation)	137-40-6	>= 10 - < 30*

Fermented sugar (containing propionic acid from fermentation)	79-09-4	$\geq 5 - < 10^*$
Fermented Sugar (containing acetic acid from fermentation)	64-19-7	$\geq 1 - < 5^*$

*Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Call a physician immediately.
If inhaled	:	If breathed in, move person into fresh air.
In case of skin contact	:	Take off all contaminated clothing immediately. If on skin, rinse well with water. If symptoms persist, call a physician.
In case of eye contact	:	Rinse immediately with plenty of water and seek medical advice. If easy to do, remove contact lens, if worn.
If swallowed	:	Rinse mouth. Do not induce vomiting. Drink water. Call physician immediately.
Most important symptoms and effects, both acute and delayed	:	Redness tearing Causes serious eye irritation.
Notes to physician	:	Treat symptomatically. In case of shortness of breath, give oxygen.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Dry powder Foam Carbon dioxide (CO ₂)
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	none Exposure to decomposition products may be a hazard to health.
Further information	:	Use a water spray to cool fully closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.
Methods and materials for containment and cleaning up	:	Collect as much of the spill as possible with a suitable absorbent material. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. To clean the floor and all objects contaminated by this material, use plenty of water.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Use only with adequate ventilation.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
Do not breathe mist or vapours.
Do not eat, drink or smoke when using this product.
Wash skin thoroughly after handling.
- Conditions for safe storage : Keep containers tightly closed in a cool, well-ventilated place.
Store locked up.
- Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Fermented sugar (containing propionic acid from fermentation)	79-09-4	TWA	10 ppm	ACGIH
		TWA	10 ppm 30 mg/m ³	NIOSH REL
		ST	15 ppm 45 mg/m ³	NIOSH REL
		TWA	10 ppm 30 mg/m ³	OSHA P0
Fermented Sugar (containing acetic acid from fermentation)	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		TWA	10 ppm 25 mg/m ³	NIOSH REL
		ST	15 ppm 37 mg/m ³	NIOSH REL
		TWA	10 ppm 25 mg/m ³	OSHA Z-1
		TWA	10 ppm 25 mg/m ³	OSHA P0

Personal protective equipment

- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Suitable respiratory equipment:
Equipment should conform to NIOSH Respirator Standard 42 CFR part 84
- Filter type : Organic vapour type
- Hand protection
- Material : Nitrile rubber
- Rate of permeability : > 480 min
- Glove thickness : 0.35 mm
- Directive : Equipment should conform to ANSI/ISEA 105
- Eye protection : Safety goggles
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
Equipment should conform to ANSI/ISEA Z87.1

Skin and body protection : Long sleeved clothing
Boots
Chemical resistant apron

Protective measures : Wear suitable protective equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : brown

Odour : No data available

Odour Threshold : No data available

pH : 5.0 - 5.6
Concentration: 100 g/l
(as aqueous solution)

Melting point/range : Not applicable

Boiling point/boiling range : No data available

Flash point : Not applicable

Flammability (solid, gas) : No data available

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1.100 - 1.400 g/cm³

Bulk density : Not applicable

Solubility(ies)
Water solubility : soluble

Partition coefficient: n-octanol/water : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : Not applicable

Particle size : Not applicable

Particle Size Distribution : No data available

Specific surface area : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : Extremes of temperature and direct sunlight.
Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.

Incompatible materials : Oxidizing agents
Bases
Acids
Metals

Hazardous decomposition products : toxic fumes
Carbon dioxide (CO₂)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

Fermented sugar (containing propionic acid from fermentation):

Acute oral toxicity : LD50 Oral (Rat): 3,455.1 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Test atmosphere: vapour
Method: OECD Test Guideline 403
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Acute dermal toxicity : LD50 Dermal (Rabbit): 3,235 mg/kg
Method: OECD Test Guideline 402

Fermented Sugar (containing acetic acid from fermentation):

Acute oral toxicity : LD50 Oral (Rat): 3,310 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:**Fermented sugar (containing propionic acid from fermentation):**

Result : Corrosive after 3 minutes to 1 hour of exposure

Fermented Sugar (containing acetic acid from fermentation):

Result : Corrosive after 3 minutes or less of exposure

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**Fermented Sugar (containing sodium propionate from fermentation):**

Assessment : Irritating to eyes.

Fermented sugar (containing propionic acid from fermentation):

Assessment : Risk of serious damage to eyes.

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

Components:**Fermented sugar (containing propionic acid from fermentation):**

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Fermented Sugar (containing acetic acid from fermentation):

Species	:	Rat, male
NOAEL	:	290 mg/kg
Application Route	:	Oral
Exposure time	:	90 d

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Fermented Sugar (containing acetic acid from fermentation):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 300.82 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 300.82 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Skeletonema costatum (marine diatom)): > 300.82 mg/l Exposure time: 72 h

Persistence and degradability

Components:

Fermented Sugar (containing sodium propionate from fermentation):

Biodegradability	:	Result: Readily biodegradable.
------------------	---	--------------------------------

Fermented sugar (containing propionic acid from fermentation):

Biodegradability	:	Result: Readily biodegradable.
------------------	---	--------------------------------

Fermented Sugar (containing acetic acid from fermentation):

Biodegradability	:	Result: Readily biodegradable.
------------------	---	--------------------------------

Bioaccumulative potential

Components:

Fermented Sugar (containing sodium propionate from fermentation):

Partition coefficient: n-octanol/water	:	log Pow: 0.33
--	---	---------------

Fermented Sugar (containing acetic acid from fermentation):

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 3.16
Partition coefficient: n-octanol/water	:	log Pow: -0.17

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

National Regulations

49 CFR

Not regulated as a dangerous good

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards

: Serious eye damage or eye irritation

SARA 313

: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):

sodium acetate	127-09-3	>= 5 - < 10 %
Fermented sugar (containing propionic acid from fermentation)	79-09-4	>= 5 - < 10 %
Fermented Sugar (containing acetic acid from fermentation)	64-19-7	>= 1 - < 5 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Fermented sugar (containing propionic acid from fermentation)	79-09-4	>= 5 - < 10 %
Fermented Sugar (containing acetic acid from fermentation)	64-19-7	>= 1 - < 5 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Fermented sugar (containing propionic acid from fermentation)	79-09-4	>= 5 - < 10 %
Fermented Sugar (containing acetic acid from fermentation)	64-19-7	>= 1 - < 5 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Fermented sugar (containing propionic acid from fermentation)	79-09-4
Fermented Sugar (containing acetic acid from fermentation)	64-19-7

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California List of Hazardous Substances

Fermented sugar (containing propionic acid from fermentation)	79-09-4
Fermented Sugar (containing acetic acid from fermentation)	64-19-7

California Permissible Exposure Limits for Chemical Contaminants

Fermented sugar (containing propionic acid from fermentation)	79-09-4
Fermented Sugar (containing acetic acid from fermentation)	64-19-7

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

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 17-May-2023
Separators: Comma is applied as a thousand separator; Dot is used as a decimal separator; Example 1,234,567.89

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

US / EN