

**MATERIAL SAFETY DATA SHEET****XIVIA™****1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING****SUBSTANCE/PREPARATION:**

XYLITOL

**TRADENAME/SYNONYMS:**

XIVIA C, XIVIA CM, XIVIA CFP, XIVIA CX

**CHEMICAL FAMILY:**

Pentahydroxypentone

**MOLECULAR FORMULA:**C<sub>5</sub>-H<sub>12</sub>-O<sub>5</sub>**MOLECULAR WEIGHT:**

152.15

**EINECS NUMBER:**

201-788-0

**COMPANY:**

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT	CAS RN	PERCENT
XYLITOL	87-99-0	98.5 – 101.0

**3. HAZARD IDENTIFICATION****SKIN CONTACT:**

SHORT TERM EFFECTS: No information is available.

LONG TERM EFFECTS: May cause irritation in susceptible individuals.

**EYE CONTACT:**

SHORT TERM EFFECTS: No information is available.

LONG TERM EFFECTS: May cause irritation with direct contact in susceptible individuals.

**INHALATION:**

SHORT TERM EFFECTS: No information is available.

LONG TERM EFFECTS: Prolonged exposure as a nuisance particle may result in respiratory irritation in susceptible individuals or those with respiratory conditions.

**INGESTION:**

SHORT TERM EFFECTS: No information is available on significant adverse effects.

LONG TERM EFFECTS: Xylitol is approved for food use and is non toxic. As with all polyols excessive consumption can cause laxation in sensitive individuals

#### 4. FIRST AID MEASURES

**SKIN CONTACT:**

Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains. Seek medical attention if needed.

**EYE CONTACT:**

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). Obtain medical attention immediately.

**INHALATION:**

Remove from exposure area immediately. Treat symptomatically and supportively. Seek medical attention if needed.

**ANTIDOTES:**

No specific antidote. Treat symptomatically and supportively.

#### 5. FIRE-FIGHTING MEASURES

**FIRE CONTROL**

Dry chemical, carbon dioxide, water spray or regular foam  
For larger fires, use water spray, fog or regular foam.

**FIRE AND EXPLOSION HAZARD:**

Slight fire hazard when exposed to heat or flame.  
Dust-air mixtures may ignite or explode.

**FIRE-FIGHTING:**

Move container from fire area if possible without risk. Do not scatter spilled material with high-pressure water streams. Dike fire-control water for later disposal (1993 Emergency Response Guidebook, RSPA P 5800.6, Guide Page 31).

Use agents suitable for type of surrounding fire. Avoid breathing hazardous vapours, keep upwind.

#### 6. ACCIDENTAL RELEASE MEASURES

**OCCUPATIONAL SPILL:**

Sweep up and place in suitable containers for disposal. Do not flush spilled material into sewer.

#### 7. HANDLING AND STORAGE

**HANDLING:**

Provide local exhaust or general dilution ventilation system.

**STORAGE:**

Observe all appropriate regulations when storing this substance.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****EXPOSURE CONTROLS:**

No permissible exposure limits established by Danisco, Australia, Belgium, Denmark, France, Germany, United Kingdom (HSE) or United States (ACGIH, OSHA).

**PERSONAL PROTECTION:****EYE PROTECTION:**

Employee should wear splash-proof or dust resistant safety goggles to prevent eye contact with this substance.

**EMERGENCY EYE WASH:**

Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

**CLOTHING:**

Employee should wear appropriate protective clothing and equipment to prevent repeated prolonged skin contact with this substance.

**GLOVES:**

Employee should wear appropriate protective gloves to prevent contact with this substance.

**RESPIRATOR:**

The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection.

The specific respirator selected must be based on contamination levels found in the work place and the specific operation, and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA). Contamination levels in the work place must not exceed the working limits of the respirator

- i) Any dust and mist respirator with a full facepiece.
- ii) Any air-purifying full facepiece respirator with a high-efficiency particulate filter.
- iii) Any powered air-purifying respirator with a tight-fitting facepiece and high-efficiency particulate filter.
- iv) Any type 'C' supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure mode or with a full facepiece, helmet or hood operated in continuous-flow mode.

**FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS**

- v) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
- vi) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	White crystalline or milled powder with a very sweet, cool taste.
<b>FLASH POINT:</b>	no data available
<b>AUTOIGNITION TEMPERATURE:</b>	no data available
<b>BOILING POINT:</b>	215-217 °C
<b>MELTING POINT:</b>	92-96 °C
<b>SPECIFIC DENSITY:</b>	1.515g/cm <sup>3</sup>
<b>WATER SOLUBILITY:</b>	highly soluble (1.6g/ml @ 20°C)
<b>pH:</b>	5.0 to 7.0
<b>SOLVENT SOLUBILITY:</b>	Soluble in alcohols, pyridine.

**10. STABILITY AND REACTIVITY****CONDITIONS TO AVOID:**

May burn but does not ignite readily. Avoid contact with strong oxidisers, excessive heat, sparks, or open flame.

**REACTIVITY:**

Stable under normal temperatures and pressures.

**INCOMPATIBILITIES:**

No data available.

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition may release toxic and/or hazardous gases.

**POLYMERISATION:**

Hazardous polymerisation has not been reported to occur under normal temperatures and pressures.

## 11. TOXICOLOGY AND INFORMATION

**TOXICITY DATA:**

22 gm/kg oral-mouse LD50; 22,100 mg/kg intraperitoneal-mouse. LDLo; 3770 mg/kg intravenous-mouse LD50; 4000 mg/kg intravenous-rabbit LD50.

**CARCINOGEN STATUS:**

None

**ACUTE TOXICITY LEVEL:**

Relatively non-toxic by ingestion.

**TARGET EFFECTS:**

No data available.

**HEALTH EFFECTS****INHALATION:**

ACUTE EXPOSURE - No data available.

CHRONIC EXPOSURE - No data available.

**SKIN CONTACT:**

ACUTE EXPOSURE - No data available.

CHRONIC EXPOSURE - No data available.

**EYE CONTACT:**

ACUTE EXPOSURE - No data available.

CHRONIC EXPOSURE - No data available.

**INGESTION:**

ACUTE EXPOSURE - No data available.

CHRONIC EXPOSURE - The US Food and Drug Administration (FDA) lists xylitol as an approved food additive for special dietary use. Xylitol is approved for use in foods in approximately 50 countries.

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL IMPACT RATING (0-4):**

No data available

**ACUTE AQUATIC TOXICITY:**

No data available.

**DEGRADABILITY:**

The product is estimated to be readily biodegradable (as predicted by U.S. EPA EPI Suite™)

**LOG BIOCONCENTRATION FACTOR (BCF):**

LogBCF from regression based method = 0.500 (BCF=3.162) (as predicted by U.S. EPA EPI Suite™)

Log Kow used = -2.56 (estimated) (as predicted by U.S. EPA EPI Suite™)

**LOG OCTANOL/WATER PARTITION COEFFICIENT:**

Log Kow = -2.56 (KNOWWIN v1.67 estimate)

**13. DISPOSAL CONSIDERATIONS**

Observe all federal, state and local regulations when disposing of this substance.

**14. TRANSPORT INFORMATION**

The MSDS should accompany all shipments for reference in the event of spillage or accidental release.

No classification currently assigned.

**15. REGULATORY INFORMATION****EUROPEAN UNION CLASSIFICATION AND LABELLING REQUIREMENTS:**

European Union labelling requirements not determined.

**16. OTHER INFORMATION****INFORMATION ON HAZARD LABELLING:**

To be determined.

**REFERENCES:**

To be determined.

This MSDS is based on a review of Danisco files, literature references, toxicology handbooks and published MSDS's on identical or related materials, and is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from their use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Nothing herein shall constitute permission, inducement or recommendation to practice any invention covered by any patent owned by Danisco Sweeteners or by others, nor as a recommendation to use any product or to practice any process in violation of any law or government regulations.