

TagTeam[®] LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 10/07/2015

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : TagTeam[®] LCO Liquid Pea and Lentil

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

Use of the substance/mixture : Pea & lentil inoculant

1.3. Details of the supplier of the safety data sheet

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, Fax: 314-694-5557

E-mail: safety.datasheet@monsanto.com

1.4. Emergency telephone number

Emergency number : FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted). FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Active ingredients:

Liquid medium of <i>Rhizobium leguminosarum</i> bv. <i>viceae</i> bacterium	0.71% w/w
Lipo-chitooligosaccharide (LCO) (CAS 168843-28-5)	1 x 10 ⁻⁷ %w/w

This mixture does not contain any substances to be mentioned according to the criteria of Appendix D to Regulations 29 CFR 1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow breathing of fresh air. Allow the victim to rest. In all cases of doubt, or when symptoms persist, seek medical advice.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation persists, seek medical attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Give water to drink if victim completely conscious/alert. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical advice/attention.

TagTeam[®] LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use. Exposure to very high levels of airborne microbial spores may result in very rare respiratory impairments or cause an allergic reaction in sensitized individuals.
- Symptoms/injuries after eye contact : Contact may cause eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : None known.
- Explosion hazard : None known.
- Reactivity : Thermal decomposition generates : Carbon monoxide. Carbon dioxide. hydrocarbons.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protective equipment for firefighters : As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Collect all waste in suitable and labelled containers and dispose according to local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin, eyes and clothing.
- Hygiene measures : Wash hands thoroughly after handling. Handle in accordance with good industrial hygiene and safety practices.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place away from: Direct sunlight, Extremely high or low temperatures, Heat sources. Keep container closed when not in use. Keep away from food, drink and animal feeding stuffs. Do not freeze.
- Incompatible materials : Acids. Bases. oxidizing agents. Reducing agents. Disinfectants, fungicides, and/or biocides may inactivate.

TagTeam[®] LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sucrose (57-50-1)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)

8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Protective goggles. Gloves. Protective clothing. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Opaque liquid.
Colour	: Opaque
Odour	: Slight
Odour threshold	: No data available
pH	: 6.5 - 7.4
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Explosive limits	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Solubility	: Water: Soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

TagTeam® LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Heat sources. Extremely high or low temperatures.

10.5. Incompatible materials

Acids. Bases. oxidizing agents. Reducing agents. Disinfectants, fungicides, and/or biocides may inactivate.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon monoxide. Carbon dioxide. hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 6.5 - 7.4
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 6.5 - 7.4
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Symptoms/injuries after eye contact	: Contact may cause eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

TagTeam® LCO Liquid Pea and Lentil

Persistence and degradability	Not established.
-------------------------------	------------------

12.3. Bioaccumulative potential

TagTeam® LCO Liquid Pea and Lentil

Bioaccumulative potential	Not established.
---------------------------	------------------

TagTeam® LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Formaldehyde	CAS No 50-00-0	<= 0.00029%
--------------	----------------	-------------

15.2. International regulations

No additional information available

National regulations

TagTeam® LCO Liquid Pea and Lentil

This material is not considered hazardous according to the criteria of the US OSHA Hazard Communication Standard (29 CFR 1910.1200).

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Abbreviations and acronyms : ACGIH (American Conference of Government Industrial Hygienists). CAS - Chemical Abstracts Service. GHS - Globally Harmonised System. HCS - Hazard Communication Standard. OSHA - Occupational Safety and Health Administration. SDS - Safety Data Sheet =. STEL- Short-Term Exposure Limit. TWA- Time Weighted Average.

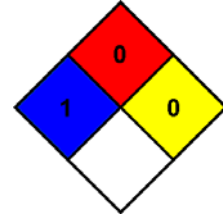
Other information : None.

TagTeam[®] LCO Liquid Pea and Lentil

MONSANTO Company - Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

NFPA health hazard	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard	: 0 - Materials that will not burn.
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.