



Rethink Tomorrow

13100 W. Lisbon Road Suite 600, Brookfield, WI. 53005 USA

# Material Safety Data Sheet

## 1. Product identification

Product use: LCO Plant signal technology

MSDS number: NZBWI-609

Effective date: March 1, 2012

## Torque™ ST

### 2. Composition:

#### Component

Lipo-chitooligosaccharide (LCO)

Other ingredients (aqueous carrier)

#### CAS number

Not available

Not available

#### % (w/w)

$1.3 \times 10^{-9}$

>99

### 3. Hazard identification:

**NFPA:** Health – 1, Flammability – 0, Reactivity – 0

**Primary entry routes:** Oral (swallowing)

#### Potential acute health effects:

**Eyes:** Eye contact may be harmful

**Skin:** Skin contact may be harmful

**Ingestion:** May be harmful if swallowed

**Inhalation:** May be harmful if inhaled

#### Medical conditions aggravated by exposure:

No known hazard

**Target organs:** Skin, eyes

**Chronic effects:** Not a likely hazard

**Cancer:** Not a likely hazard

**Birth defects:** Not available

**Reproductive effects:** Not available

**Mutagenic effects:** Not available

### 4. First aid measures:

**Eyes:** Flush eyes with water for at least 15 minutes.

Get medical attention if irritation persists

**Skin:** Wash with soap and water

**Inhalation:** Remove person to fresh air. Get medical attention if irritation persists

**Ingestion:** Drink water and contact a physician if there is any irritation or nausea as product contains a biocide (<1%)

### 5. Fire-fighting measures:

**Flash point:** None

**Auto-ignition temp.:** Not available

#### Explosive limits:

LEL: Not applicable UEL: Not applicable

**Extinguishing media:** Water, carbon dioxide, dry chemical, synthetic foam

**Fire fighting instructions:** Fire fighters should wear full protective clothing, including self-contained breathing equipment

### 6. Accidental release measures:

Contain the spill with any available absorbent medium and store in a suitable container until proper disposal can be arranged.

### 7. Handling and storage:

Store any unused product in original unopened containers in a cool, dry place, away from sunlight, drafts and direct heat sources. Practice reasonable caution to avoid contact with this product. Users should wash hands before eating, drinking, chewing gum, using tobacco or the toilet. Keep out of reach of children. Do not ship or store this product with food, feed, drugs or clothing.

### 8. Exposure controls, personal protection, and exposure limits:

**LCO:** Not available

**Engineering controls:** Good ventilation is required.

**Breathing:** Use an approved air-purifying respirator if respiratory irritation is experienced.

**Protective clothing:** Wear clean body-covering clothing and impervious gloves when handling this product.

**Eyes:** Safety glasses with side shields recommended.

**Other protection:** Washing facilities should be available.

**Comments:** Practice general personal hygiene after using this product. After handling any chemical or biological product, wash arms, hands and face with soap and water before eating, drinking or smoking.

---

**In Case of Emergency Call: 1-888-744-5662**

Available 24 hours a day 7 days a week from April 1<sup>st</sup> to June 15<sup>th</sup>,  
otherwise available from 8:00am to 4:30pm CST, Monday to Friday.

Torque™ is a trademark of Novozymes A/S.

## 9. Physical and chemical properties:

**Boiling point:** 100 ° C (212 ° F)  
**Volatility:** Not available  
**pH:** 6-8  
**Odour:** Mild  
**Physical state:** Liquid  
**Water solubility:** Not applicable  
**Coefficient of water/oil distribution:** Not available  
**Bulk density:** Not available  
**Evaporation rate:** Not available  
**Solubility in water:** Not available  
**Odour threshold:** Not available  
**Freezing point:** 0 ° C (32 ° F)  
**Melting point:** Not applicable  
**Vapor density:** Not available  
**Specific gravity:** 1.05 g/cc

## 10. Stability and reactivity:

**Stability:** Stable  
**Conditions to avoid:** None  
**Hazardous polymerization:** Will not occur  
**Chemical incompatibilities:** None known  
**Hazardous Products of Decomposition:**  
Oxides of carbon

## 11. Toxicological information:

**Skin absorption:** Not available  
**Eyes:** Potential irritant  
**Ingestion:** Oral LD<sub>50</sub> is not available  
**Inhalation:** Inhalation LC<sub>50</sub> is not available

## 12. Ecological information:

**Toxicity to bees:** Not available. Not a likely hazard  
**Toxicity to fish:** Not available. Not a likely hazard  
**Toxicity to birds:** Not available. Not a likely hazard

## 13. Disposal considerations:

This product may be disposed of by placement in any landfill approved for domestic waste.

## 14. Transportation information:

This product is not regulated as a hazardous material for all modes of transportation within the U.S. and Canada.

**Hazard class:** Not applicable

## 15. Regulatory information:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

**Proposition 65:** Contains no components subject to warning requirements

**Master reference:** On file  
**MSDS status:** New MSDS

## 16. Other information:

**Prepared by:** M. Sonier

This information may not be adequate for every application and therefore it is up to the user to determine the suitability of this information based on conditions of use, storage or local regulations.

**Notice:** The information contained in this Material Safety Data Sheet is presented in good faith and is believed to be accurate as of the effective date shown above. However, no other warranty, expressed, or implied, is given. Laws, regulations, and/or third party rights may prevent customers from importing, using, processing and/or reselling the products described herein in a given manner. Without separate written agreement between the customer and Novozymes to such effect this document does not constitute a representation or warranty of any kind and is subject to change without further notice.

---

**In Case of Emergency Call: 1-888-744-5662**

Available 24 hours a day 7 days a week from April 1<sup>st</sup> to June 15<sup>th</sup>,  
otherwise available from 8:00am to 4:30pm CST, Monday to Friday.

Torque™ is a trademark of Novozymes A/S.