MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection Canada, Inc.
140 Research Lane, Research Park
Guelph, ON N1G 4Z3

In Case of Emergency, Call
1-800-327-8633 (FAST MED)

Date of MSDS Preparation (Y/M/D): 2010-12-31

Supersedes date (Y/M/D): 2008-01-11

MSDS prepared by:
Department of Regulatory & Biology Development
Syngenta Crop Protection Canada, Inc.

For further information contact:
1-87-SYNGENTA (1-877-964-3682)

SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: **TURBOCHARGE® Adjuvant** Formulation No.: A12724A
Registration Number: 23135 (Pest Control Products Act)
Chemical Class: A blend of petroleum oils, surfactants and emulsifiers.

Active Ingredient (%): Not Applicable CAS No.: Not Applicable
Chemical Name : Mixture
Product Use: An agricultural adjuvant to be used with registered herbicide partner products. For further details please refer to product label.

SECTION – 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
1-Octanol	Not Established	Not Established	50 ppm TWA****	No	Yes
Petroleum Oil (≤ 50%) CAS No. 64741-88-4	5 mg/m^3 TWA*	5 mg/m^3 TWA*	Not Established	No	Yes

* Recommended by Manufacturer
**** Recommended by AIHA (American Industrial Hygiene Association)
† Material listed in Ingredient Disclosure List under Hazardous Products Act.

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B, S

SECTION – 3: HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

May cause skin irritation. Exposure to high vapour levels may cause drowsiness or dizziness. May be harmful if swallowed and enters airway.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Pale yellow liquid.
Odour: Aromatic petroleum-like odour.

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapours that form explosive mixtures at temperatures at or above the flash point. Heavy vapours can flow along surfaces to distant ignition sources and flash back.
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Potential Health Effects

Relevant routes of exposure: Skin, eyes, mouth, lungs.

SECTION – 4: FIRST AID MEASURES

IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. Have the product container, label or Material Safety Data Sheet with you when calling Syngenta, a poison control center or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [**1-800-327-8633** (**1-800-FASTMED**)], for further information.

EYE CONTACT: Flush eyes with clean water, holding eyelids apart for a minimum of 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta, a poison control center or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

SKIN CONTACT: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with plenty of water for 15-20 minutes. Call Syngenta, a poison control centre or doctor for treatment advice.

INHALATION: Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.

INGESTION: If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Do not induce vomiting unless directed by a physician or a poison control center. Do not give **any** liquid to the person. Call Syngenta, a poison control centre or doctor for treatment advice.

NOTES TO PHYSICIAN:

There is no specific antidote if this product is ingested. Treat symptomatically. Contains petroleum distillate - vomiting may cause aspiration pneumonia.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point and method: > 100 ºC (TCC).
Upper and lower flammable (explosive) limits in air: Not available.
Auto-ignition temperature: Not available.
Flammability: Not flammable.
Hazardous combustion products: Can decompose at high temperatures forming toxic gases. Thermal decomposition products may include carbon monoxide, carbon dioxide and, possibly, irritating gases.
Conditions under which flammability could occur: High temperatures, open flames. Can release vapours that form explosive mixtures at temperatures at or above the flash point. Heavy vapours can flow along surfaces to distant ignition sources and flash back. Keep fire exposed containers cool by spraying with water.
Extinguishing media: Use foam, carbon dioxide, dry powder or halon extinguishant. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.
Sensitivity to explosion by mechanical impact: None known.
Sensitivity to explosion by static discharge: None known.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation and wear equipment and clothing as described in Section 8 and/or the product label.

Procedures for dealing with release or spill: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into compatible disposal container. On soils, small amounts will naturally decompose. For large amounts, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory authority.

SECTION – 7: HANDLING AND STORAGE

Handling practices: KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing dust, vapours or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people.

Appropriate storage practices/requirements: Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C. separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

National Fire Code classification: Not required.

SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable control measures, including engineering controls: This product is intended for use outdoors where engineering controls are not necessary. If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

CONSULT THE PRODUCT LABEL FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS.

Personal protective equipment for each exposure route:

General: Avoid breathing vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

INGESTION: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

EYES: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SKIN: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

INHALATION: A respirator is not normally required when handling this substance. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. Use a NIOSH-certified combination air-purifying respirator with an HE class filter and an organic vapour cartridge under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying

respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

SECTION – 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow liquid.
Formulation Type: Emulsifiable concentrate.
Odour: Mild aromatic petroleum-like.
pH: 6.5 (1% suspension in water @ 25 ºC).
Vapour pressure and reference temperature: Not available.
Vapour density: Not available.
Boiling point: Not available (> 100 ºC).
Melting point: Not available.
Freezing point: - 12 ºC
Specific gravity or density: 0.87 - 0.88 g/cm^3 @ 20 ºC.
Evaporation Rate: Not available.
Water/oil partition coefficient: Not available.
Odour threshold: Not available.
Viscosity: 27 mPas (or cps) at 20°C
Solubility in Water: Not available.

SECTION – 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions.
Conditions to avoid: High temperatures, sparks, open flames. Keep away from sources of ignition.
Incompatibility with other materials: Strong oxidizing agents. Can be made to burn under fire conditions.
Hazardous decomposition products: Can decompose at high temperatures forming toxic gases. Thermal decomposition products may include carbon monoxide, carbon dioxide and, possibly, irritating gases.
Hazardous polymerization: Will not occur.

SECTION – 11: TOXICOLOGICAL INFORMATION

Acute toxicity/Irritation Studies (Finished Product):

Ingestion:	Low Acute Toxicity Oral (LD50 Rat):	> 5,000 mg/kg body weight
Dermal:	Low Acute Toxicity Dermal (LD50 Rabbit):	> 2,000 mg/kg body weight
Inhalation:	Low Acute Toxicity Inhalation (LC50 Rat):	> 5.16 mg/L
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Dermal Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

No information is available and no adverse reproductive, mutagenic or teratogenic/embryotoxic effects are anticipated.

Chronic/Subchronic Toxicity Studies

Not Available

Carcinogenicity

The ingredients in this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA and not listed as carcinogens by NTP.

Other Toxicity Information:

Other effects of overexposure: CNS depression is characterized by headache, dizziness, drowsiness, nausea vomiting and incoordination. Severe overexposure may lead to comma and possible death due to respiratory failure. Peripheral neuropathy is a progressive disorder of the nervous system characterized by sensory and motor abnormalities, muscle spasms, weakness and pain in the arms and legs, numbness and tingling of the fingers and toes and paralysis. No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on similar preparations.

Toxicity of Other Components

Test results reported in Section 11 for the finished product take into account any acute hazards related to the excipient ingredients in the formulation.

1-Octanol

Exposure may cause eye, skin and respiratory tract irritation. Prolonged skin contact may cause dermatitis and defatting.

Emulsifier Blend

An eye corrosive in concentrated form. May cause skin irritation. High concentrations of mists or aerosols may irritate respiratory passages.

Petroleum Oil

Acute exposure may cause respiratory tract irritation. Excessive exposures may cause irritation to eyes, nose, throat and lungs.

Solvent

Exposure may cause eye and skin irritation.

Other materials that show synergistic toxic effects together with the product: None known.

Target Organs

Active Ingredient

Not Applicable

Inert Ingredients

1-Octanol:	Eye, skin, respiratory tract
Emulsifier Blend:	Eye, skin, respiratory tract
Petroleum Oil:	Respiratory tract, eye
Solvent:	Eye, skin

SECTION – 12: ECOLOGICAL INFORMATION

Summary of Effects

This material is potentially toxic to fish and wildlife.

Environmental Fate

Degradation in soil and the aquatic environment is expected to occur fairly rapidly via microbial biotransformation and hydrolysis.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers unless they are specifically designed to be re-filled. Empty container retains product residue. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only.

Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents must accompany the shipment.

SECTION – 14 : TRANSPORT INFORMATION

Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL.
Not Regulated.

SECTION – 15: REGULATORY INFORMATION

WHMIS classification for product: Exempt

A statement that the MSDS has been prepared to meet WHMIS requirements, except for use of the 16 headings.
This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

Other regulations; restrictions and prohibitions
Pest Control Products (PCP) Act Registration No.: 23135

SECTION – 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant MSDS. Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.

Prepared by: Syngenta Crop Protection Canada, Inc.
1-87-SYNGENTA (1-877-964-3682)

Syngenta Crop Protection Canada, Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date thereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates to the specific product designated and may no be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and of the information referred to herein are beyond the control of Syngenta Crop Protection Canada, Inc., Syngenta Crop Protection Canada, Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

TURBOCHARGE® is a trademark of a Syngenta Group Company.