



# SAFETY DATA SHEET

## SECTION 1: Identification

**Product identifier:** N YIELD CX

**Other means of identification:** Not Applicable

**SDS number -** EA0007

**Recommended use:** Fertilizer Coating

**Recommended restrictions:** Use in accordance with supplier's recommendations.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name:** INNOVAR AG

**Address:** 1201 6<sup>th</sup> Avenue West, Suite 302  
Bradenton, Florida 34205 USA

**Telephone:** +1 855 473-3632 (8:00AM-5:00PM EST)

**Emergency:** Call CHEMTREC day or night  
Within USA/Canada 1-800-424-9300  
Outside USA/Canada +1 703-527-3887 (collect calls accepted)

## SECTION 2: Hazard(s) identification

**Classification of the substance or mixture**

**GHS-US Classification in accordance with US 29 CFR 1910.1200 (Hazcom 2012)**

Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2
Skin corrosion/irritation	Category 2

**Label elements**

**Hazard symbol(s)**



**Signal word:**

Danger

**Hazard statement(s):**

Causes serious eye damage. Suspected of damaging fertility or the unborn child. Causes skin irritation.

**Precautionary statement(s)**

**Prevention:**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal

protective equipment as required. Wear eye and face protection, protective gloves, protective clothing.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Wash hands, forearms and face thoroughly after handling

Wear eye protection, face protection, skin protection, clothing protection

**Response:** If on skin: wash with plenty of water. If irritation occurs, get medical attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical attention or advice. If inhaled, removed person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you are unwell.

**Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with all applicable local/state/national/international laws and regulations.

**Hazard(s) not otherwise Classified (HNOC)** None Known

### SECTION 3: Composition/information on ingredients

**This product is a mixture:**

#### Composition---Information On Ingredients

<b>Chemical name</b>	<b>Common Name</b>	<b>CAS number</b>	<b>%</b>
N-(n-butyl)-thiophosphoric triamide	NBPT	94317-64-3	15-55
Methane, sulfinylbis-	Dimethyl sulfoxide.	67-68-5	20-40
1,2-dihydroxypropane	Propylene glycol	57-55-6	5-49.5
Benzoic aldehyde	Benzaldehyde	100-52-7	1-5

**Composition comments:** All concentrations are in percent by weight. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i). Remaining components are proprietary, non-hazardous, and /or present at amounts below reportable limits.

### SECTION 4: First-aid Measures

**Inhalation:** If inhaled, remove to fresh air. If not breathing, apply artificial respiration. Get medical attention immediately.

**Skin contact:** Remove all contaminated clothing immediately. Wash immediately with soap and plenty of water. If irritation develops and persists, get medical attention. Launder contaminated clothing before reuse.

**Eye contact:** Wash immediately with large amounts of water for 15 minutes, lifting the upper and lower lids until no evidence of product remain. Get immediate medical attention.

**Ingestion:** Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

**Most important symptoms/effects, acute and delayed:** Risk of serious damage to eyes. Skin irritation.

**Indication of immediate medical attention and special treatment needed:** Treat symptomatically.

**General Information:** Ensure that medical personnel are aware of the material(s) involved and take precaution to protect themselves.

#### **SECTION 5: Fire-fighting measures**

**Suitable extinguishing media:** Carbon Dioxide (CO<sub>2</sub>), Dry chemical, Foam, Water Fog

**Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread fire.

**Specific hazards arising from the chemical:** Vapors released in fire conditions may be toxic, irritating and corrosive.

**Hazardous combustion products may include:** Carbon oxides, nitrogen oxides, sulfur oxides and irritating vapors.

**Special protective equipment and precautions for fire-fighters:** Firefighters should be equipped with protective clothing and self-contained breathing apparatus to protect against potentially toxic and irritating vapors. In case of fire or explosion, keep unnecessary people away. Isolate hazard area and prevent any entry by non-emergency personnel. Stay upwind, out of low areas and ventilate closed spaces before entering.

**Firefighting equipment Precautions for firefighters:** Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards:** This product is not flammable. Will burn if involved in a fire.

#### **SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Avoid inhalation of vapors and spray mist and contact with eyes and skin. Ensure adequate ventilation. Wear appropriate personal protective equipment. (See Section 8)

**Methods and materials for containment and cleaning up:** Do not empty into drains or waters. Do not touch or walk through the spilled material; stop leak if you can do it without risk. Dike large spills where possible. Absorb using vermiculite, dry sand or other non-combustible absorbent and place in labeled sealable containers. Never return spills to original containers for reuse. For waste disposal see section 13 of SDS.

**Environmental precautions:** Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

**Recommended Decontamination Facilities:** Eye bath and water washing facilities.

### SECTION 7: Handling and Storage

**Precautions for safe handling:** Keep away from sources of ignition. No smoking. Observe good industrial hygiene practices. Immediately remove all contaminated clothing. Avoid contact with eyes and skin. Inhalation of vapors and aerosols must be absolutely prevented. Employees should wash their hands and face before eating and drinking and shower thoroughly before leaving work. Keep away from food and drink stuffs.

**Conditions for safe storage, including any incompatibles:** Keep container tightly closed and in a well-ventilated place. Long term storage at temperatures above 100°F (36°C) and long term storage of opened containers, can adversely impact the efficacy of products containing N-(n-butyl)-thiophosphoric triamide. As the product degrade, it can release harmful gases. Store below 100° F (36° C) and use opened containers within 30 days. Always use oldest stock first. Store in accordance with all applicable local, state, national and international regulations.

### SECTION 8: Exposure controls/personal protection

#### Occupational exposure limits

#### US Workplace Environmental Exposure Level (WEEL) Guides

<u>Components</u>	<u>Type</u>	<u>Value</u>	
Dimethyl sulfoxide (CAS 67-68-5)	TWA	250 PPM	
Propylene glycol (CAS 57-55-6)	TWA	10 mg/m <sup>3</sup>	As Aerosol
Benzaldehyde (CAS 100-52-7)	TWA	2 PPM	

(TWA: 8-hour Time-Weighted Average)

**Appropriate engineering controls:** Use adequate local and general ventilation as recommended by onsite health and safety personnel to meet requirement. Observe exposure limits and minimize the risk of inhalation of vapors and spray mist. Provide eye wash stations and safety shower.

#### Individual protection measures, such as personal protective equipment:

<b>Eye/face protection:</b>	Wear approved safety glasses or goggles.
<b>Skin and Hand protection:</b>	Long-sleeve shirts, pants, gloves (e.g. polyethylene/ethylene vinyl alcohol) and boots are recommended. Impervious suits are recommended when the potential for dermal contact is significant.

**Respiratory protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits an approved respirator must be worn. In case of inadequate ventilation or risk of inhalation of mist use suitable respiratory equipment with particle filter. In the United States of America if respirators are used, the health and safety administrator must use a program to ensure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.

**Other:** Overalls, apron or other protective clothing.

**Thermal hazards:** Wear appropriate thermal protective clothing when necessary.

**SECTION 9: Physical and chemical properties**

**Appearance:**

**Physical state:** Liquid

**Color:** Slightly hazy to clear, green, golden yellow or blue

**Odor:** Ammonia-like odor

**Odor threshold:** Not Available

**pH:** 8-10 (10% in water @ 20°C)

**Melting point/freezing point:** Not Available

**Initial Boiling point/Boiling Range:** Not Available

**Flash point:** Not Available

**Other information-Flammability:** Not Available

**Evaporation rate:** Not Available

**Flammability (solid, gas):** Not Available

**Upper/lower flammability or explosive limits**

**Flammability limit – lower:** Not available

**Flammability limit – upper:** Not Available

**Explosive limit – lower:** Not available

**Explosive limit – upper:** Not available

**Vapor pressure:** Not available

**Vapor density:** Not available

**Relative density (Specific gravity):** 1.092 @ 20°C (68°F)

**Solubilities (water, other):** Partially soluble in water.

**Partition coefficient (n-octanol/water):** Not Available

**Auto-ignition temperature:** Not Available

**Decomposition temperature:** No thermal decomposition is anticipated when stored and handled correctly.

**Viscosity:** Not Available

**Other information**

**Bulk density:** Not Available

**VOC (Weight %):** Not Available

## SECTION 10: Stability and Reactivity

<b>Reactivity:</b>	This product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability:</b>	This product is anticipated to be stable under normal use and storage conditions.
<b>Possibility of hazardous reactions:</b>	Not known to cause any hazardous reactions.
<b>Conditions to avoid:</b>	Heat, sparks, other sources of ignition and temperature extremes.
<b>Incompatible materials:</b>	Acids. Strong oxidizing and strong reducing agents.
<b>Hazardous decomposition Products:</b>	This product contains components which may decompose to release: methanethiol, formaldehyde, water, bis (methylthio) methane, dimethyl disulfide, dimethyl sulfone, dimethyl sulfide, sulfur dioxide, oxides of carbon, nitrogen, sulfur and other compounds.

## SECTION 11: Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	May cause irritation of the nose throat and respiratory tract.
<b>Ingestion:</b>	May cause irritation of the gastrointestinal tract.
<b>Skin:</b>	Causes skin irritation
<b>Eye:</b>	Risk of serious damage to eyes.

**Symptoms related to the physical, chemical, and toxicological characteristics:** May cause serious eye damage. May cause irritation to nose and throat if inhaled. Skin sensitization (an allergic reaction) may develop. Inhalation may lead to dizziness, nausea, unconsciousness and other narcotic effects.

### Acute toxicity:

#### Components

N-(n-butyl)-thiophosphoric triamide (CAS 94317-64-3)

Oral LD50 (rat)	>2823 mg/kg
Dermal LD50 (rat)	>2000 mg/kg
NOAEL (rat)	445 mg/kg, 1 day

Skin corrosion/irritation	Cat 2-causes skin irritation
Serious eye damage	Cat 1-risk of serious eye damage
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Cat 2-Suspected of damaging fertility or the unborn child.
Specific target organ toxicity, single exposure	Not classified
Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified

Chronic effects	Prolonged exposure may cause chronic effects
Further information	Symptoms may be delayed
Dimethyl sulfoxide (CAS 67-68-5)	
Oral LD50 (male rat)	14500 mg/kg
Skin LD50 (rabbit)	5000 mg/kg
Inhalation Gas LD50 (rat)	40250 ppm
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Not classified
Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable
Propylene glycol (CAS 57-55-6)	
Oral LD50 (rat)	22000 mg/kg
Skin LD50 (rabbit)	> 2000 mg/kg
LC50(inhl, rabbit, 2 hours)	> 317 mg/l
Skin corrosion/irritation	Not classified
Serious eye damage	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Not classified
Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable
Benzaldehyde (CAS 100-52-7))	
Oral LD50 (rat/adult)	1430 mg/kg
Dermal LD50 (rabbit/adult)	>2000 mg/kg (based on benzoic acid)
Inhalation LC50 (rat/adult)	>1<5 mg/l (4 hours)
Skin corrosion/irritation	Not classified
Serious eye damage	Cat 2A-Causes serious eye irritation
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Cat 3-May cause respiratory irritation.

Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable

**SECTION 12: Ecological information**

**Ecotoxicity**

**Product data on mixture:** Not available

**Ingredient Information:**

N-(n-butyl)-thiophosphoric triamide	
LC50, Bluegill ( <i>Lepomis macrochirus</i> )	1140 mg/l, 96h
EC50, 48h, water flea ( <i>Daphnia magna</i> )	290 mg/l
EC50, Algae ( <i>Selenastrum capricornutum</i> )	280 mg/l, 96h

Dimethyl sulfoxide	
LC50, Pimephales promelas, 96-hour	34000 mg/l
EC50, <i>Daphnia magna</i> , 48-hour	25000 mg/l
EC50, algae ( <i>Skeletonema costatum</i> ) 96-hour	12350 mg/l

Propylene glycol	
LC50, Pimephales promelas, 96-hour	46500 mg/l
LC50, <i>Daphnia magna</i> , 48-hour	43500 mg/l
EC50, algae ( <i>Skeletonema costatum</i> ) 96-hour	19100 mg/l

Benzaldehyde	
LC50, fish 96-hour	1.07 mg/l
EC50, Algae 96-hour	23.1 mg/l
EC50. Invertebrates 48-hour	16.2 mg/l

<b>Persistence and degradability</b>	Product Data Not Available
<b>Bioaccumulative potential</b>	Product Data Not Available
<b>Mobility in soil</b>	Product Data Not Available
<b>Mobility in general</b>	Product Data Not Available
<b>Other adverse effects</b>	Product Data Not Available

**SECTION 13: Disposal considerations**

**Disposal instructions:** Do not allow this material to drain into sewers or water supplies. Dispose of in accordance with all applicable regulations. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Since emptied containers may retain product residue, follow label warnings even after container is empty.



## SECTION 14: Transport Information

**LAND TRANSPORT (US-DOT):** Not regulated for transport as dangerous goods.

**IMDG:** Not regulated for transport as dangerous goods.

**IATA:** Not regulated for transport as dangerous goods.

**TDG:** Not regulated for transport as dangerous goods.

## SECTION 15: Regulatory Information

### US Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

N-(n-butyl)-thiophosphoric triamide (NBPT) is subject to a Significant New Use Rule (SNUR) as specified in 40 CFR 721.6090.

#### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpart D)**

N-(n-butyl)-thiophosphoric triamide (NBPT) CAS 94317-64-3 1.0% One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4)** Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1050)** Not listed.

**SARA 302 Extremely Hazardous Substance:** -No

**SARA 304 Emergency Release Notification:** -No

**SARA 311/312 Hazardous Chemical:** -Yes

Classified Hazard Categories Serious eye damage, skin corrosion or irritation, reproductive toxicity

**SARA 313 (TRI reporting):** -No

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** Not regulated.

**Safe Drinking Water Act:** Not regulated

### US State Regulations.

**California Proposition 65-**This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**New Jersey Right To Know Components:** Dimethyl sulfoxide CAS 67-68-5  
Propylene glycol CAS 57-55-6

**Pennsylvania Right To Know Components:** Propylene glycol CAS 57-55-6  
**Rhode Island RTK:** Propylene glycol CAS 57-55-6

**CANADA REGULATIONS**

Controlled Drugs and Substances Act	Not regulated
Export Control List (CEPA 1999, Schedule 3)	Not listed
Greenhouse Gases	Not listed
Precursor Control Regulations	Not regulated

**INVENTORIES**

Canada	Domestic Substances List (DSL)	All components on inventory.
US	Toxic Substances Control Act (TSCA) Inventory All components of the product, or mixture, are active items as identified on EPA TSCA 8(b) Inventory of 3-15-2019.	All components on inventory.

**SECTION 16: Other Information**

**Revision Date: December 22, 2020**

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