

# FACTOR X2

## 45%

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product identifier**

Trade name FACTOR X2

**Relevant identified uses of the substance or mixture and uses advised against**

Uses of the Substance/Mixture Specific use(s): Agrochemicals

**Details of the supplier of the safety data sheet**

Company Rosen's Inc.  
700 SW 291 Hwy, Ste. 204  
Liberty, MO 64068  
Telephone number: (877) 781-9191

**Emergency telephone**

Chemical emergency contact CHEMTREC (800-424-9300)

### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

HCS 2012 (29 CFR 1910.1200)	
Serious eye damage	Category 1
Reproductive toxicity (unborn child)	Category 1B
Skin corrosion/irritation	Category 2
STOT (repeated exposure)	Category 2
STOT (single exposure) - resp. system	Category 3
STOT (single exposure) - central nervous system	Category 3
Acute oral toxicity	Category 4

**Label Elements**

HCS 2012 (29 CFR 1910.1200)

Pictogram



Signal Word

Danger

**Hazard Statements:**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to respiratory tract, central nervous system through single or repeated exposure.

*Precautionary  
Statements*

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drinking, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye and face protection.

Response

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P303+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+P351	IF IN EYES: Rinse cautiously with water for several minutes.
P308+P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.

Storage

P233	Keep container tightly closed.
P403	Store in a well-ventilated place.
P405	Store locked up.

Disposal

P501	Dispose of contents/container to an approved waste disposal plant.
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**Other hazards which do not result in classification**

None known.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Not applicable, this product is a mixture.

**Mixture**

Synonyms Proprietary NBPT Blend

*Hazardous Ingredients and Impurities*

Component	CAS Reg. Number	WHMIS Hazard	% Wt/Wt
PHOSPHOROTHIOIC TRIAMIDE, N-BUTYL-	94317-64-3	Y	40 – 70
The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.			

**4. FIRST AID MEASURES**

**Description of first-aid measures**

If inhaled Remove to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell. If breathing is

	difficult, give oxygen. If victim has stopped breathing: Administer CPR (cardio-pulmonary resuscitation). Get immediate medical advice/attention.
Skin contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing and immediately call a poison center or physician.
Ingestion	Call a poison control center or doctor if you feel unwell. Rinse mouth. Do not induce vomiting without medical advice or give anything by mouth to an unconscious person. If conscious: Keep at rest. Do not give anything to drink. Do not leave the victim unattended. Vomiting may occur spontaneously. Risk of product entering the lungs on vomiting after ingestion. Lay victim on side. Seek medical advice

**Most important symptoms and effects, both acute and delayed**

Risk	Skin contact may aggravate existing skin disease Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.
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**Indication of any immediate medical attention and special treatment needed**

Notes to physician	All treatments should be based on observed signs of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. There is no specific antidote available.
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**5. FIREFIGHTING MEASURES**

<b>Flash Point</b>	98 degrees C (208 degrees F)
<b>Flammability Class</b>	Will burn
<b>Method Used</b>	TAG Closed Cup

**Extinguishing Media**

Suitable extinguishing media	Extinguishing media – small fires Dry chemical Carbon dioxide (CO <sub>2</sub> ) Extinguishing media – large fires Foam Water spray
Unsuitable extinguishing media	High volume water jet (Frothing possible)

**Special hazards arising from the substance of mixture**

Specific hazards during fire fighting	Under fire conditions: Will burn Container may rupture on heating Highly toxic gases are released Hazardous decomposition products formed under fire conditions. On combustion or on thermal decomposition (pyrolysis), releases: Nitrogen oxides (NO <sub>x</sub> ) Sulfur oxides, Carbon oxides, Oxides of phosphorus, Ammonia, Hydrogen sulfide
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### Advice for firefighters

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment For further information refer to section 8 "Exposure controls/personal protection."
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### Environmental precautions

Environmental precautions	Do not flush into surface water or sanitary sewer system. Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
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### Methods and materials for containment and cleaning up

Prohibition	Use only non-sparking tools.
Methods for containment	Stop leak if safe to do so. Dam up with sand or inert earth (do not use combustible materials).
Recovery	Soak up with inert absorbent material. Shovel or sweep up. Keep in suitable, closed containers for disposal.
Decontamination/cleaning	Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Flush with plenty of water. Recover the cleaning water for subsequent disposal. Decontaminate tools, equipment, and personal protective equipment in a segregated area.
Disposal	Dispose of in accordance with local regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Technical measures	Do not use sparking tools. Ensure all equipment is electrically grounded before beginning transfer operations.
Advice on safe handling on usage	The product must only be handled by specifically trained employees. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Do not ingest.
Hygiene measures	Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: <ol style="list-style-type: none"> <li>1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.</li> <li>2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.</li> <li>3) Wash exposed skin promptly to remove accidental splashes or contact with material.</li> </ol>

**Conditions for safe storage, including any incompatibilities***Storage conditions*

## Recommended

Keep container tightly closed in a dry and well-ventilated place. Store product between 32° and 100°F (0° and 38°C). Avoid long-term storage at high temperatures. Product may degrade if stored at temperatures above 100°F.

## To be avoided

Keep away from open flames, hot surfaces, and sources of ignition.

Keep away from incompatible materials to be indicated by the manufacturer.

## Incompatible products

Do not mix with incompatible materials (see list, section 10).

**Specific end use(s)**

No data available.

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

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

**Control parameters**

Ingredients with workplace control parameters

None known.

**Exposure controls***Control measures*

## Engineering measures

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize exposures:

Effective exhaust ventilation system

*Personal protective equipment*

## Respiratory protection

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

## Hand protection

Recommended preventive skin protection:

Gloves

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into account the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

## Eye protection

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through the use of:

Safety glasses with side-shields or Face-shield

## Skin and body protection

Recommended preventive skin protection

Footwear protection against chemicals

Hygiene measures	<p>Impervious clothing</p> <p>Choose body protection according to the amount and concentration of the dangerous substances at the work place.</p> <p>Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials:</p> <ol style="list-style-type: none"> <li>1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.</li> <li>2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.</li> <li>3) Wash exposed skin promptly to remove accidental splashes or contact with material.</li> </ol>
Protective measures	<p>Ensure that eyewash stations and safety showers are close to the workstation location.</p> <p>Emergency equipment immediately accessible, with instructions for use. The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards, and/or risks that may occur during use.</p>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business using the Product Information phone number in Section 1 for its exact specifications.

### Information on basic physical and chemical properties

Appearance	Physical state: Liquid
	Color: Green
Odor	Characteristic
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Flash point	98 degrees C (208 degrees F) TAG closed cup
	Flammability class: Will burn
Evaporation rate (butylacetate = 1)	No data available
Flammability (solid, gas)	No data available
Flammability (liquids)	No data available
Flammability/Explosive limit	No data available
Autoignition temperature	No data available
Vapor pressure	No data available
Vapor density	No data available
Density	1.08 – 1.20 g/cm <sup>3</sup> (20 C (68 F))
Solubility	Water Solubility:
	Miscible
Partition coefficient: n-octanol/water	No data available
Thermal decomposition	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other Information

No data available

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

Conditions to avoid

Keep away from heat and sources of ignition.

### Incompatible materials

Materials to avoid

Strong bases  
Strong oxidizing agents  
Strong reducing agents  
Perchloric acid  
Mineral acids  
Organic acids  
Metals in presence of moisture  
Zinc  
Mild steel  
Carbon steel  
Halogenated compounds

### Hazardous decomposition products

Decomposition products

Carbon oxides  
Sulfur oxides  
Oxides of phosphorus  
Nitrogen oxides (NO<sub>x</sub>)  
Ammonia  
Formaldehyde  
Phosphine

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### *Acute toxicity*

Acute oral toxicity

Not classified as harmful if swallowed  
According to the data on the components  
According to the classification criteria for mixtures.

Acute inhalation toxicity

Not classified as harmful by inhalation  
According to the data on the components  
According to the classification criteria for mixtures.

Acute dermal toxicity

Not classified as harmful by contact with skin  
According to the data on the components  
According to the classification criteria for mixtures.

Acute toxicity (other routes of administration)

No data available.

#### *Skin corrosion/irritation*

Skin irritation

Slightly irritating to rabbits on cutaneous application.  
Data available only for some components.  
Unpublished reports. Active ingredient.

*Serious eye damage/eye irritation*  
Eye irritation

Risk of serious damage to eyes.  
May cause irreversible eye damage.  
According to the data on the components.  
According to the classification criteria for mixtures.

*Respiratory or skin sensitization*  
Sensitization

Not classified as sensitizing by skin contact  
According to the data on the components  
According to the classification criteria for mixtures.

*Mutagenicity*  
Genotoxicity in vitro

Product is not considered to be genotoxic  
According to the data on the components  
According to the classification criteria for mixtures.

Genotoxicity in vivo

Product is not considered to be genotoxic  
According to the data on the components  
According to the classification criteria for mixtures.

*Carcinogenicity*  
Carcinogenicity

No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP  
IARC  
OSHA  
ACGIH

*Toxicity for reproduction and development*  
Toxicity for reproduction/fertility

Fertility study 2 generations  
Possible risk of impaired fertility  
According to the data on the components  
According to the classification criteria for mixtures.

Developmental Toxicity/Teratogenicity  
**STOT**

No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

*Experience with human exposure*  
Experience with human exposure:  
Inhalation

Symptoms: Nose bleeding  
Vomiting  
Data available only for some components  
Published data  
Active ingredient

*Aspiration toxicity*  
Aspiration toxicity

No data available

## 12. ECOLOGICAL INFORMATION

### Toxicity

No data available

### Persistence and degradability

No data available

### Bioaccumulative potential

No data available



**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods***Product Disposal*

Advice on Disposal

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code

EPA:

Hazardous waste - NO

*Advice on cleaning and disposal of packaging*

Advice on Disposal

Rinse with an appropriate solvent.

Dispose of contents/container in accordance with local regulations.

**14. TRANSPORT INFORMATION**

DOT: Not regulated.

TDG: Not regulated.

IMDG: Not regulated.

IATA: Not regulated.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

**15. REGULATORY INFORMATION****Notification status**

United States TSCA Inventory

YES (positive listing)

On TSCA inventory.

Canadian Domestic Substances List (DSL)

YES (positive listing)

All components of this product are on the Canadian DSL.

**Federal Regulations****SARA 311/312 Hazards**

Fire hazard	No
Reactivity Hazard	No
Sudden Release of Pressure Hazard	No
Acute Health Hazard	Yes
Chronic Health Hazard	Yes

**SARA 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 304 Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Reportable Quantity**

This material does not contain any components with SARA 302 RQ.

**State Regulations****California Prop 65**

WARNING! This product contains a chemical known in the State of California to cause cancer.  
N-methyl pyrrolidone

**16. OTHER INFORMATION****NFPA Classification**

Health	3 serious
Flammability	1 slight
Instability or Reactivity	0 minimal

**HMIS Classification**

Health	3 serious
Flammability	1 slight
Reactivity	0 minimal

**Further information**

Date updated	02/04/2016
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**Key or legend to abbreviations and acronyms used in the safety data sheet**

TWA	8 hr. time-weighted average
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety and Health Administration
WHMIS	Workplace Hazardous Materials Information System
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
HMIS	Hazardous Materials Identification System (Paint & Coating)

**Disclaimer:**

The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in another manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.