

Karta charakterystyki sporządzona zgodnie z Rozporządzeniem Komisji (UE) 2020/878 z dnia 18 czerwca 2020 r. zmieniające załącznik II do rozporządzenia (WE) nr 1907/2006 Parlamentu Europejskiego i Rady w sprawie rejestracji, oceny, udzielania zezwoleń i stosowanych ograniczeń w zakresie chemikaliów (REACH) (Tekst mający znaczenie dla EOG)

SAFETY DATA SHEET

VitaFer Green – Liquid foliar fertilizer

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

- 1.1 Product identifier **VitaFer Green**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified use: The fertilizer is intended for the fertilization of agricultural, vegetable and fruit crops.
Uses advised against: Other than those specified above.
- 1.3 Details of the supplier of the safety data sheet:
VITAFER SP. Z O.O. SP. K.
Aleja Krakowska 19
05-555 Tarczyn
E-mail address to the person responsible for the Safety Data Sheet: office@vitafer.pl
- 1.4 Emergency telephone number: 112 or +48 793 454 243 (8.00- 16.00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Harmful effects on human health and the environment:
Eye Dam. 1- H318 Causes serious eye damage.
Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements
Hazard pictogram (s):



Signal word: Dangerous

Hazard statement (s):
H318 Causes serious eye damage
H412 Harmful to aquatic life with long-lasting effects

Precautionary statement (s):
*P264 Wash ... thoroughly after handling.
*P273 Avoid release to the environment..
*P280 Wear protective gloves/protective clothing/eye protection/face protection
*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
**P337+P313 If eye irritation persists: Get medical advice/attention..
P501 Dispose of contents/container to ... [... in accordance with local/regional/national/international regulation

* content required by the fertilizer approval decision issued by the Ministry of Agriculture and Rural Development.

Additional labeling requirements:

Contains: manganese sulphate monohydrate, copper sulphate pentahydrate, zinc sulphate monohydrate .

2.3 Other hazards

The product does not meet the classification criteria for PBT and vPvB substances according to Annex XIII of the EC Regulation 1907/2006.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Name of the substance	Registration no.	WE	CAS	% [m/m]	Classification 1272/2008
Iron sulfate heptahydrate *	01-2119457558-25-XXXX	231-753-5	7782-63-0	>5 -- <10	Acute Tox. 4 * H302 Skin Irrit. 2; H315: Eye Irrit. 2 H319
Citric acid monohydrate	01-2119457026-42-XXXX	201-069-1	5949-29-1	>1 - ≤ 5	Eye Irrit. 2 H 319
Copper sulfate pentahydrate	01-2119520566-40-XXXX	231-847-6	7758-99-8	>0,5 – <1,4	Acute Tox. 4 H302 Eye Dam. 1 H318 STOT RE 2 H373 Aquatic Acute 1 H400 Aquatic Chronic 1 H410
Manganese sulfate monohydrate	01-2119456624-35-XXXX	232-089-9	10034-96-5	>1 – <2,5	Eye Dam. 1 H318 STOT RE 2 H373 Aquatic Chronic 2 H411
Boric acid*	01-2119486683-25-0006	233-139-2	10043-35-3	>1 – <2,5	Repr. 1B - H360FD
Zinc sulfate monohydrate	01-2119474684-27-0021	231-793-3	7446-19-7	>0,5 – <1,1	Acute Tox. 4 H302 Eye Dam. 1 H318 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

* Specific concentration limits for:

Boric acid:

Repr. 1B; H360FD: C ≥ 5.5%

Iron sulfate pentahydrate:

Skin Irrit. 2; H315: C ≥ 25%

Full text of H-phrases and R-phrases: see section SECTION 16

4. FIRST AID MEASURES

4.1 Description of first aid measures

General remarks - Remove contaminated clothing and shoes and wash before reuse. In case of persistent discomfort, consult a doctor.

After inhalation - Remove the injured from the place of exposure. Provide access to fresh air.

Skin contact - Take off contaminated clothing. Clean contaminated skin mechanically, rinse with plenty of water. Consult a dermatologist if skin irritation persists.

Eye contact - Rinse immediately with plenty of water for at least 15 minutes with the eyelids held wide open. Remove contact lenses. Avoid strong stream of water because of the risk of mechanical damage to the cornea. Provide immediate medical attention.

After exposure through the gastrointestinal tract - Emergency help in acute poisoning consists in rinsing the stomach with water. Get medical attention or contact a physician. Do not give anything to an unconscious person.

4.2 Most important and delayed symptoms and effects of exposure:

Eyes - Redness, pain, serious eye damage.

Leather - no data available

Inhalation - no data available.

Ingestion - no data available.

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

Treat symptomatically, no known specific antidote. Show the physician the Material Safety Data Sheet or the label. If more than 6 grams of boric acid are ingested, kidney function should be monitored and fluids should be given.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable: the product is non-flammable. Use means suitable for materials stored in the immediate vicinity.

Inappropriate: Not specified.

5.2 Special hazards arising from the substance or mixture

Development of hazardous gases or vapors possible in the event of fire: sulfur oxides, carbon oxides, zinc oxides.

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.

Dispose of contaminated fire extinguishing water in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures.

6.1.1 For non-emergency personnel:

- Protective equipment - personal protection measures see section 8 - prevention of skin and eye contamination.
- Emergency procedures - Not specified

6.1.2 For emergency responders: not specified.

6.2 Environmental precautions.

Contain contaminated water / firefighting water. Do not allow product to reach sewage system, groundwater or surface water.

6.3 Methods and materials preventing the spread of contamination and used for cleaning up.

6.3.1. Recommendations for preventing the spread of the spill. Appropriate methods to prevent the spread of contamination:

- Embankment, securing the sewage system - mats for sewage chambers
- Methods to limit the leakage - use sorbents.

6.3.2. Appropriate advice shall be provided on how to clean-up a spill. Appropriate clean-up procedures may include any of the following.:

- Use of adsorbents
- Cleaning with industrial vacuum cleaners.

6.3.3. Other information related to the spill or release, including information on the contaminated sorbent and the collected product, should be transferred to an authorized waste disposal company.

6.4 Reference to other sections - see sections 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Work hygiene: do not eat, drink or smoke in the workplace. Wash hands after use, remove contaminated clothing and protective equipment before entering dining areas. Employees working outside the workplace should be provided with first aid kits with first aid measures along with instructions for their use. The area for eating and smoking is designated at a distance of not less than 50 meters from the fertilizer application area on the windward side. After finishing work, wash the whole body in warm water with the use of soap and rinse the mouth several times with water suitable for drinking water.
- Fire prevention measures: product is not flammable
- Measures to prevent the formation of aerosols - not specified
- Environmental protection measures - use the product in accordance with its intended use and manufacturer's instructions (appropriate dilution)

7.2 Conditions for safe storage, including any incompatibilities

Store in original, closed and properly labeled containers. Avoid exposure to high temperatures and direct exposure to sunlight. Proper storage temperature range from + 5°C to + 30°C (optimal temperature 25 °C). Store in a dry and well-ventilated room. Protect the containers against physical damage. The warehouse should be closed and inaccessible to unauthorized persons. The following inscription is placed on the external door of the warehouse: "STORAGE OF PLANT PROTECTION PRODUCTS AND FERTILIZERS" or "STORAGE OF FERTILIZERS".

Incompatible materials - oxidants.

7.3 Specific end use(s)

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

The highest permissible concentration in the work environment.

Copper and its compounds - converted to Cu, oxide fumes and salts):

NDS: 0.2 mg / m³; STEL: not determined; STEL: not determined

Manganese [7439-96-5] and its inorganic compounds - expressed as Mn:

Inhalable fraction NDS 0.2 mg / m³; NDSCh: not specified; NDSP: not specified

Respirable fraction NDS 0.05 mg / m³; NDSCh: not specified; NDSP: not specified

Monitoring procedures:

PN-EN 14042 Air at work stations. Guide for the use and application of procedures for the assessment of exposure to chemical and biological agents.

Values DNEL:

boric acid			
Exposure	Value	Population	Consequences
Inhalation	8,3 mg/m ³	Workers	Long term action
Oral skin	3924800 mg/day	Workers	Long term action Acute action
Skin (external)	0,98 mg/kg body weight /day	Society	Long term action
Skin (general) Inhalation	196 mg/kg body weight /day	Society	Long term action
Oral	0,98 mg/kg body weight /day	Society	Long term action
	4,15 mg/m ³	Society	Long term action
	0,98 mg/kg body weight /day	Society	Long term action

Manganese sulfate monohydrate

Skin	0,00414mg/kg body weight /day	Workers	long-term system-wide effects
Inhalation	0,2 mg/m3	Workers	long-term system-wide effects
Oral	Omittet	Workers	long-term system-wide effects
Skin	0, 0021mg/ body weight /day	The general public	long-term system-wide effects
Inhalation	0,043 mg/m3	The general public	long-term system-wide effects
Oral	Omittet	The general public	long-term system-wide effects

Iron sulfate:

Consumer: Oral / dermal - 0.8 mg / kg / day, 24h / day exposure, ECHA AF method

Consumer: Inhalation -1.4 mg / m3, 24h / day exposure method ECHA AF

Consumer: Oral / dermal - 4 mg / kg / day, 24h / day exposure, ECETOC AF method

Consumer: Inhalation -7 mg / m3, exposure 24h / day ECETOC AF method Worker: skin - 1.6 mg / kg / day exposure 8h / day ECHA AF method Worker: Inhalation - 5.5 mg / kg / day exposure 8h / day ECHA AF method Worker: skin - 8 mg / kg / day, exposure 8h / day ECETOC AF method Worker: Inhalation - 27.5 mg / kg / day, 8h / day exposure, ECETOC AF method

PNEC values

Boric acid:

surface waters - 1.35 mg B / l

sea waters - 1.35 mg B / l

freshwater bottom sediments - 1.8 mg B / kg dry weight marine water sediment - 676 mg / kg dry weight

Sum, periodic water reservoirs - 9.1 mg B / l Sum, Sewage treatment plant - 1.75 mg B / l

Manganese Sulfate Monohydrate:

Water (fresh water) - 0.0128 mg / l

Water (sea water) - 0.0004 mg / l

Water (occasional release) - 0.03 mg / l Sediment (fresh water) - 0.0114 mg / kg sediment Sediment (sea water) - 0.00114 mg / kg sediment Sewage treatment plant - 56 mg / l

Soil - 25.1 mg / kg soil

Zinc sulfate

Water (freshwater) - 20.6 mg / l. Water (marine water) - 6.1 mg / l

Sediment (fresh water) - 117.8 mg / kg of sediment

Sediment (sea water) - 56.5 mg / kg sediment

Soil - 35.6 mg / kg soil

Ferrous sulfate heptahydrate: iron

sediment (g Fe / kg dwt) - 49.5; estimation factor 1

soil (g / kg dwt) - 55; estimation factor 1

STP (mg Fe / l) -500; estimation factor 1

Copper sulfate

Copper levels that do not cause adverse changes in the natural environment: Surface waters - 7.8 µg/l

Sea waters - 5.2 µg / l

Freshwater bottom sediments - 87 mg / kg dry weight Marine water sediments - 676 mg / kg dry weight Soil - 65.5 mg / kg dry weight

8.2 Exposure controls

Appropriate engineering controls:

Provide general ventilation and local exhausts when preparing appropriate concentrations of fertilizer. Use appropriate and operational fertilizer spraying equipment.

Individual protection measures, such as personal protective equipment:

- Eye or face protection - safety goggles with side shields, compliant with the PN - EN 166 standard

- Skin / hand protection - protective gloves tested and selected on the basis of PN-EN 374-2 and 374-3 standards, recommended:
 - o full contact: nitrile rubber, thickness 0.6 mm, durability time > 480 min
 - o splash: polypropylene, thickness 0.65 mm, resistance time > 240 min
- Respiratory protection - required when vapors / mists are generated AP filters.
- Skin protection - protective clothing

8.2.3 Environmental exposure controls

Before starting use

measure, the occupational risk should be assessed and the appropriate prevention established.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Properties	Data	Research methods
State of aggregation	Liquid	Organoleptic
Color	Brown	Organoleptic
Smell	Characteristic	Organoleptic
Melting point / freezing point	Not applicable	
Boiling point or initial boiling point and boiling range	No data	
Flammability of materials	Not flammable	
Lower and upper explosive limits	Not applicable	
Flash-point	Not applicable	
temperature of self-ignition	No data	
Decomposition temperature	Not applicable	
pH	2.5-4.0	Potentiometric
Kinematic viscosity	No data	
Solubility	No data	
Water solubility	Very good	
Partition coefficient n-octanol / water 23oC, pH = 5	Not applicable	
Vapor pressure	No data	
Density or relative density	1.11 kg / l	No data
Relative vapor density	Not applicable	
Molecule characteristics (only for solids)	Not applicable	

9.2 Other information: lack

10. STABILITY AND REACTIVITY

10.1 Reactivity

They are not known under the recommended conditions of use. Non-reactive during storage, use and use under normal conditions

10.2 Chemical stability

The product is stable under the recommended conditions of use and storage.

10.3. Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Avoid exposure to high temperatures and direct exposure to sunlight. Do not allow the temperature to drop below 5oC.

10.5 Incompatible materials

Strong oxidizers.

10.6 Hazardous decomposition products

Sulfur oxides may be formed during fire or by heating.

11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity - based on the available data, the classification criteria are not met
Skin corrosion / irritation - based on the available data, the classification criteria are not met.
Serious eye damage / eye irritation - causes serious eye damage, calculation method.
Respiratory or skin sensitization - based on the available data, the classification criteria are not met.
Mutagenic effect on reproductive cells based on available data, the classification criteria are not met.
Carcinogenic effect - based on the available data, the classification criteria are not met.
Reproductive toxicity - based on available data, the classification criteria are not met. Specific target organ toxicity - single exposure - based on the available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure - based on the available data, the classification criteria are not met.
Aspiration hazard - based on the available data, the classification criteria are not met.

Information on the likely routes of exposure

Symptoms related to the physical, chemical and toxicological characteristics - no data available.
Delayed and immediate effects as well as chronic effects from short and long-term exposure - serious eye damage.
Effects of interaction - no data available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties
11.2.2 Other information – brak dostępnych danych.

12. ECOLOGICAL INFORMATION

Classification of the mixture - Harmful to aquatic organisms with long-lasting effects - calculation method.

12.1 Toxicity- no data available for the mixture

Dane dla składników:

Zinc Sulphate Monohydrate:

Toxicity to fish: *Jordanella floridae* LC50: > 1.5 mg / l / 96 h (anhydrous substance)
Toxicity to aquatic invertebrates: *Daphnia magna* EC50: 0.75 mg / l / 48 h (anhydrous substance)
Toxicity to aquatic plants: *Ankistrodesmus falcatus* EC50: 32 µg / l / 4 h (anhydrous substance)
Toxicity to bacteria: *Euglena* sp. NOEC: ≥ 1.95 g / l / 7 d (anhydrous substance)
M-factor acute = 1, M-factor chronic toxicity = 1

Manganese Sulfate Monohydrate:

Acute toxicity (short-term):

Fish: *Salmo trutta*, LC50 (96 h) = 49.9 mg Mn / l.
Aquatic invertebrates: *Daphnia magna*, LC50 (48 h) = 9.8 mg Mn / l.
Algae / aquatic plants: *Desmodesmus subspicatus*, EC50 (72 h) = 61 mg / l.
Microorganisms: Activated sludge with domestic sewage, EC50 (3 h) > 1000 mg / l.
Chronic (long-term) toxicity:
Fish: *Danio rerio*, NOEC (30 d) = 2.78 mg Mn / l.
Aquatic invertebrates: *Macrobrachium rosenbergii*, NOEC (60 d) = 0.01 mg Mn / l.

Copper sulfate pentahydrate:

Acute toxicity (short-term):

Fish: LC50 0.35 mg / L 96h *Cyprinus carpio*
LC50 0.11 mg / L 96h *Oncorhynchus mykiss*
Aquatic invertebrates: EC50 0.1 mg / L 48h *Daphnia magna*
EC50 0.024 mg / L 48h *Daphnia magna*.
Algae / aquatic plants: *Desmodesmus subspicatus*, EC50 (72 h) = 61 mg / l.
Microorganisms: LC50 0.08 mg / l *Escherichia coli*
LC50 0.15 mg / l *Scenedesmus*

12.2 Persistence and degradability - The methods for determining degradation are not applicable to inorganic substances.

12.3 Bioaccumulative potential– no data available.

12.4 Mobility in soil– no data available.

12.5 Results of PBT and vPvB assessment- The product does not contain any substances meeting the PBT and vPvB criteria.

12.6 Endocrine disrupting properties- no data available.

12.7 Other adverse effects

The product does not contain substances harmful to the ozone layer.

13.DISPOSAL CONSIDERATIONS

Comply with the provisions of the Act of December 14, 2012 on waste [Journal of Laws of 2012, no. 2021_0_779] and the Act of June 13, 2013 on the management of packaging and packaging waste [Dzu 2020_0_1114]

13.1 Waste treatment methods

Empty packaging, uncleaned recycling

Mixture - dilute with water, it is not recommended to discharge undiluted product to sewage.

Sorbent with a mixture - agree with an expert

Waste code:

02 01 08 * - agrochemical waste containing dangerous substances, including plant protection products I and II

Toxicity classes (very toxic and toxic)

15 01 10 * - Packaging containing residues of or contaminated by dangerous substances

Waste treatment - Relevant information - No data available.

Wastewater Discharge - Relevant Information - No Data Available.

Other recommendations for waste disposal:

Thoroughly empty the tanks and dispose of them after cleaning in accordance with applicable regulations. Appropriate waste management methods must be undertaken by the waste treatment operator in accordance with regional, national and European legislation and possibly taking into account local conditions.

14.TRANSPORT INFORMATION

14.1 UN number or ID number– not applicable

14.2 UN proper shipping name– not applicable

14.3 Transport hazard class(es)– not applicable

14.4 Packing group– not applicable

14.5 Environmental hazards– not applicable

14.6 Special precautions for use– not applicable

14.7. Maritime transport in bulk according to IMO instrument– not applicable

15.REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

1. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency and amending Directive 1999/45 / EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769 / EEC and Commission Directives 91/155 / EEC, 93/67 / EEC, 93/105 / EC and 2000/21 / EC. (Corrigendum to regulation L136 / 3 of May 29, 2007)

2. REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (EC) No 1272/2008 of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548 / EEC and 1999/45 / EC and amending the Regulation (EC) No 1907/2006

3. Commission Regulation (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Annex XVI SVHC - Boric acid included in the Candidate List of Substances of Very High Concern (SVHC) for possible inclusion in the Annex

National regulations

1. The Act of February 25, 2011 on chemical substances and their mixtures (consolidated text, Journal of Laws 2020, item 2289)
2. The Act of April 27, 2001, Environmental Protection Law (consolidated text, Journal of Laws of 2020, item 1219)
3. Regulation of the Council of Ministers of August 24, 2004 on the list of works forbidden to adolescents and the conditions of employing them for some of these works (consolidated text, Journal of Laws 2016, 1509)
4. Regulation of the Council of Ministers of April 3, 2017 on the list of burdensome, dangerous or harmful to the health of pregnant women and breast-feeding women (Journal of Laws 2017, item 796).
5. Regulation of the Minister of Labor and Social Policy of November 29, 2002 on the highest permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286, as amended).
6. Regulation of the Minister of Health of February 2, 2011 on tests and measurements of factors harmful to health in the work environment (Journal of Laws of 2011 No. 33, item 166)
7. Regulation of the Minister of Health of 30 December 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86, as amended).
8. Act of 10 July 2007 on fertilizers and fertilization (Journal of Laws 2021 item 76L)
9. Regulation of the Minister of Agriculture and Rural Development of 16 April 2008 on the detailed method of using fertilizers and conducting training in the field of their use (Journal of Laws 2019, item 1826).
10. Regulation of the Minister of Economy of 8 September 2010 on the method of packing mineral fertilizers, placing information on fertilizer ingredients on these packages, methods of testing mineral fertilizers and types of fertilizer lime (Journal of Laws 2010, No. 183, item 1229)
11. Regulation of the Minister of Agriculture and Rural Development of June 24, 2002 on occupational health and safety in the use and storage of plant protection products as well as mineral and organic-mineral fertilizers. (Journal of Laws of 2002, No. 99, item 896)

15.2 Chemical safety assessment

The supplier did not carry out a chemical safety assessment for the mixture.

16. OTHER INFORMATION

Product use - for professional use only.

Changes have been made in the sections:

Entire card - Section and subsection names have been corrected
Section 2 - classification and labeling
Section 3 - substances in a mixture
Section 4 - Most Important and Delayed Symptoms and Effects
Section 6 - handling of spills
Section 7 - records on occupational hygiene and the method of marking the warehouse
Section 8 - description of technical measures and acceptable levels of NDS, DNEL for potassium hydroxide.
Section 12 - Acute toxicity for the substance manganese sulphate monohydrate.
Section 15 - List of regulations update

Recommended training:

- On-the-job and periodic OHS training
- Application of fertilizers
- Use of individual protection measures in accordance with the occupational risk assessment
- Training in emergency procedures in the event of leaks

List of acronyms:

PNEC - Predicted No Effect Concentration
DNEL - no effect level
SVHC: Substance of Very High Concern
TLV: Highest Permissible Concentration
STEL: Maximum Permissible Momentary Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very Persistent and Very Bioaccumulative

Full text of the H statements referred to under Sections 2 and 3

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.

H319 Irritating to eyes.
H360FD May damage fertility or the unborn child.
H400 Very toxic to aquatic organisms.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Other information

Use of the mixture - for professional use only.

The above information has been prepared in accordance with the present state of our knowledge and describes the product from the point of view of environmental protection and safety rules. They do not constitute a guarantee of product properties or quality specification and cannot be the basis for a complaint.

It replaces the edition dated 01-01-2020..

Data sources on the basis of which this sheet was developed:

Safety data sheets of substances included in the mixture

IUCLID Data Bank (European Commission - European Chemicals Bureau).