# BRANDT

## SAFETY DATA SHEET

#### 1. Identification

Product identifier Brandt Nutrient+Buffer 10-12-0

Other means of identification

Product code 02008

Recommended use Adjuvant/ Fertilizer
Recommended restrictions Refer to product label.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company nameBrandt Consolidated, Inc.Address2935 South Koke Mill Road

Springfield, IL 62711

**United States** 

**Telephone** Corporate Office 1-217-547-5800

Website www.brandt.co E-mail www.brandt.co

Contact person EH&S / Regulatory Department

Emergency phone number CHEMTREC (24 hours):

USA, Canada, Puerto Rico 1-800-424-9300 Virgin Islands 1-800-424-9300 International Maritime +1 (703) 527-3887

## 2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 4

Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, repeated Category 1

exposure

Environmental hazards Hazardous to the aquatic environment, acute Category 3

hazard

Hazardous to the aquatic environment, Category 3

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage.

Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Harmful to aquatic life with long lasting effects.

**Precautionary statement** 

**Prevention** Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when

using this product. Avoid release to the environment. Wear protective gloves/protective

clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all

contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison

center/doctor. Wash contaminated clothing before reuse.

Store locked up. **Storage** 

Dispose of contents/container in accordance with local/regional/national/international regulations. Disposal

Hazard(s) not otherwise

classified (HNOC)

None known.

Supplemental information None.

## 3. Composition/information on ingredients

#### **Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Urea		57-13-6	20 - < 30*
Phosphoric Acid		7664-38-2	10 - < 20*
Zinc Sulfate		7733-02-0	5 - < 10*
Manganese Sulfate, monohydrate		10034-96-5	3 - < 5*
Nonylphenol polyethylene glycol ether		127087-87-0	1 - < 3*
Poly(ethylene oxide)		25322-68-3	< 0.1*
Other components below reportable I	evels		50 - < 60

<sup>\*</sup>Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### 4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or

poison control center immediately. Chemical burns must be treated by a physician. Wash

contaminated clothing before reuse.

Eve contact Immediately flush eves with plenty of water for at least 15 minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If Ingestion

vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and

delayed

Indication of immediate medical attention and special

treatment needed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical General information

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

personnel are aware of the material(s) involved, and take precautions to protect themselves. Show

this safety data sheet to the doctor in attendance.

#### 5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media

Specific hazards arising from

the chemical

Special protective equipment and precautions for firefighters During fire, gases hazardous to health may be formed.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Move containers from fire area if you can do so without risk. Fire fighting

equipment/instructions

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

Personal precautions. protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

## Methods and materials for containment and cleaning up

This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

### **Environmental precautions**

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Do not contaminate

water. Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

#### Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

#### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Components	Туре	Value	
Manganese Sulfate, monohydrate (CAS 10034-96-5)	Ceiling	5 mg/m3	
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m3	
US. ACGIH Threshold Limit Value	s		
Components	Туре	Value	Form
Manganese Sulfate, monohydrate (CAS 10034-96-5)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
US. NIOSH: Pocket Guide to Chen	nical Hazards		
Components	Туре	Value	Form
Manganese Sulfate, monohydrate (CAS 10034-96-5)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
US. Workplace Environmental Ex	posure Level (WEEL) Guides		
Components	Type	Value	Form
Poly(ethylene oxide) (CAS 25322-68-3)	TWA	10 mg/m3	Particulate.
Urea (CAS 57-13-6)	TWA	10 mg/m3	Total particulate.

No biological exposure limits noted for the ingredient(s).

**Biological limit values** 

## Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

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

**Eye/face protection** Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

**Hand protection** Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection** Chemical respirator with organic vapor cartridge and full facepiece.

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

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

Appearance Liquid.
Physical state Liquid.
Form Liquid.

Color Clear. Amber

Odor Slightly soap; phosphoric acid-like.

Odor threshold Not available.

p**H** < 1.5

Melting point/freezing point Not available.

Initial boiling point and boiling 212 °F (100 °C)

range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

#### 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 0.00001 hPa

Vapor density > 1

Relative density 1.29 g/cm3 (typical)

Solubility(ies)

Solubility (water) Miscible

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

**Density** 1.82 g/cm3 estimated

Explosive properties

Oxidizing properties

Not explosive.

Not oxidizing.

Percent volatile

50.25 % estimated

Pounds per gallon

10.75 lb/gal (typical)

Specific gravity 1.82 estimated VOC 10.92 % estimated

## 10. Stability and reactivity

**Reactivity** Reacts violently with strong alkaline substances. This product may react with reducing agents.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with

incompatible materials. Do not mix with other chemicals.

Incompatible materials Bases. Reducing agents.

Hazardous decomposition

products

**Product** 

No hazardous decomposition products are known.

## 11. Toxicological information

## Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

**Ingestion** Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including

blindness could result.

Species

#### Information on toxicological effects

Acute toxicity Harmful if swallowed.

Brandt Nutrient+Buffer 10-	-12-0	
<u>Acute</u>		
Dermal		
LD50	Rat	18700 mg/kg estimated
Oral		
LD50	Rat	3727 mg/kg estimated
Components	Species	Test Results

Manganese Sulfate, monohydrate (CAS 10034-96-5)

Acute Oral

LD50 Rat 2150 mg/kg

Phosphoric Acid (CAS 7664-38-2)

<u>Acute</u> Dermal

LD50 Rabbit 2740 mg/kg

Urea (CAS 57-13-6)

<u>Acute</u> Oral

LD50 Rat

8471 mg/kg

**Test Results** 

Zinc Sulfate (CAS 7733-02-0)

Acute Dermal

LD50 Rat > 2000 mg/kg

**Skin corrosion/irritation** Causes severe skin burns and eye damage.

Serious eye damage/eye

Causes serious eye damage.

irritation

Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**No data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity**This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects**Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be

harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Because of the low pH of this product, it would be

expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic

systems.

	Systems.		
Product		Species	Test Results
Brandt Nutrient+Buffer 10	0-12-0		
Aquatic			
Crustacea	EC50	Daphnia	118.2114 mg/l, 48 hours estimated
Fish	LC50	Fish	197.7423 mg/l, 96 hours estimated
Components		Species	Test Results
Manganese Sulfate, mon	ohydrate (CAS	10034-96-5)	
Aquatic			
Crustacea	EC50	Water flea (Daphnia obtusa)	30.8 - 44.1 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	36.9 mg/l, 96 hours
			29.7 - 52.7 mg/l, 192 hours
Nonylphenol polyethylene	e glycol ether (C	AS 127087-87-0)	
Aquatic			
Fish	LC50	Fish	3.8 - 6.2 mg/l, 96 hr
Poly(ethylene oxide) (CA	S 25322-68-3)		
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/l, 96 hours
Urea (CAS 57-13-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3910 mg/l, 48 hours
Fish	LC50	Carp (Leuciscus idus melanotus)	> 10000 mg/l, 48 hours
		Guppy (Poecilia reticulata)	16200 - 18300 mg/l, 96 hours
		Harlequinfish, red rasbora (Rasbora heteromorpha)	12000 mg/l, 96 hours
		Mozambique tilapia (Tilapia mossambica)	590 - 730 mg/l, 96 hours
		·	

Components **Species Test Results** 

Zinc Sulfate (CAS 7733-02-0)

**Aquatic** 

LC50 Green algae (Chlorella vulgaris) Algae 5 mg/l, 24 hours

Crustacea EC50 Amphipod (Crangonyx pseudogracilis) 15.1 - 24.5 mg/l, 96 hours

> Rotifer (Philodina acuticornis) 0.5 mg/l, 48 hours

Fish LC50 Fathead minnow (Pimephales promelas) 10.62 - 11.3 mg/l, 5 days

0.168 - 0.25 mg/l, 96 hours

Fish (Lepidocephalichthyes guntea) 76 - 118.8 mg/l, 24 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Urea -2.11

No data available. Mobility in soil

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation

potential.

13. Disposal considerations

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the **Disposal instructions** 

material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international

regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some

product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Since emptied containers may retain product residue, follow label warnings even after container is Contaminated packaging

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN1760 **UN number** 

**UN** proper shipping name Corrosive liquids, n.o.s. (Phosphoric Acid)

Transport hazard class(es)

Class 8 Subsidiary risk 8 Label(s) Ш **Packing group** 

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions A6, A7, B10, T14, TP2, TP27

None Packaging exceptions 201 Packaging non bulk Packaging bulk 243

IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

IATA

**UN** number UN1760

Corrosive liquids, n.o.s. (Phosphoric Acid) **UN proper shipping name** 

Transport hazard class(es)

Class 8 Subsidiary risk Label(s) 8 **Packing group** Ш **Environmental hazards** Yes Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

#### **IMDG**

UN1760 **UN** number

**UN** proper shipping name Corrosive liquids, n.o.s. (Phosphoric Acid), MARINE POLLUTANT

Transport hazard class(es)

Class 8 Subsidiary risk 8 Label(s) Ш **Packing group** 

**Environmental hazards** 

Yes Marine pollutant

**EmS** Not available.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

#### DOT



#### IATA; IMDG



#### Marine pollutant



IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant. **General information** 

## 15. Regulatory information

**US federal regulations** Cadmium 7440-43-9 Listed: October 1, 1987 Arsenic 7440-38-2 Listed: February

27, 1987 Lead 7439-92-1 Listed: October 1, 1992 This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

## TSCA Chemical Action Plans, Chemicals of Concern

Nonylphenol polyethylene glycol ether (CAS Nonylphenol (NP) and Nonylphenol Ethoxylates (NPEs) Action Plan

127087-87-0)

#### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Manganese Sulfate, monohydrate (CAS 10034-96-5) Listed. Listed. Phosphoric Acid (CAS 7664-38-2)

Zinc Sulfate (CAS 7733-02-0)

Listed.

## SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Yes

chemical

Classified hazard Acute toxicity (any route of exposure)

categories Skin corrosion or irritation

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	
Manganese Sulfate, monohydrate	10034-96-5	3 - < 5	_
Zinc Sulfate	7733-02-0	5 - < 10	

#### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese Sulfate, monohydrate (CAS 10034-96-5)

## Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act** 

Not regulated.

(SDWA)

#### FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Phosphoric Acid (CAS 7664-38-2) High priority

#### **US state regulations**

#### **California Proposition 65**

WARNING: This product can expose you to chemicals including arsenic, cadmium, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

# US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Nonylphenol polyethylene glycol ether (CAS 127087-87-0)

Phosphoric Acid (CAS 7664-38-2)

#### **International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

<sup>\*</sup>A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

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A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 02-11-2019

Version # 0

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of Manufacturer's

knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its owns tests of

the Product to determine suitability of the Product for user's particular use.