

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 03/18/2015

Reviewed on 03/18/2015

1 Identification

- **Product identifier**
- **Trade name: 8-2-12-180-LND-CC**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product description** PC12 Fertilizers
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Florikan ESA, LLC
6801 Energy Ct. Suite 100
Sarasota, FL. 34240
ph: 941-379-4048 ext 332
Fax: 941-377-3633
Email product info: Doug Cabe; dcabe@florikan.com
- **Emergency telephone number:** Chemtrec 800-424-9300

www.Florikan.com

* 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

Eye Irrit. 2B H320 Causes eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

Magnesium Sulphate
Manganese(II) Sulfate Monohydrate
Magnesium Sulphate Monohydrate (Kieserite)
Sulfate of Potash Magnesia
sulfur

- **Hazard statements**

Causes skin and eye irritation.
May cause respiratory irritation.

(Contd. on page 2)

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May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves.

Avoid release to the environment.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a poison center/doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

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

· **Unknown acute toxicity:**

33.7 percent of the mixture consists of ingredient(s) of unknown toxicity.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards** None known

* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous Components:**

CAS: 7487-88-9	Magnesium Sulphate	15-35%
RTECS: OM 4500000	⚠ STOT SE 3, H335	
CAS: 14567-64-7	Magnesium Sulphate Monohydrate (Kieserite)	5-10%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 14977-38-8	Sulfate of Potash Magnesia	5-10%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	

(Contd. on page 3)

Safety Data Sheet (SDS)

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Trade name: 8-2-12-180-LND-CC

CAS: 7704-34-9	sulfur ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	5-10%
CAS: 57-13-6 RTECS: YR 6250000	Urea	5-10%
CAS: 10034-96-5 RTECS: OP0893500	Manganese(II) Sulfate Monohydrate ⚠ STOT RE 2, H373; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335; H401	2-12%
CAS: 7783-28-0 RTECS: TB 9375000	Diammonium phosphate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2B, H320	≤ 2.5%
CAS: 7720-78-7 RTECS: NO 8510000	iron(II) sulfate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤ 2.5%
CAS: 1319-33-1 RTECS: ED 7350000	Boron ⚠ STOT SE 3, H335	≤ 2.5%
CAS: 7758-99-8 RTECS: GL 8800000	Copper Sulfate Pentahydrate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≤ 2.5%
CAS: 7733-02-0	Zinc Sulphate (anhydrous) ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	≤ 2.5%

* 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** In case of unconsciousness, place patient securely on side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 4)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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Do not allow to enter sewers/ surface or ground water.

• **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

• **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

• **Handling:**

• **Precautions for safe handling** No special precautions are necessary if used correctly.

• **Information about protection against explosions and fires:** No special measures required.

• **Conditions for safe storage, including any incompatibilities**

• **Storage:**

• **Requirements to be met by storerooms and receptacles:** No special requirements.

• **Information about storage in one common storage facility:** Not required.

• **Further information about storage conditions:** Keep receptacle tightly sealed.

• **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

• **Additional information about design of technical systems:** No further data; see section 7.

• **Control parameters**

• **Components with occupational exposure limits:**

14567-64-7 Magnesium Sulphate Monohydrate (Kieserite)

PEL TWA	Short-term value: 5 mg/m ³ Long-term value: 15 mg/m ³
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14977-38-8 Sulfate of Potash Magnesia

TLV	Short-term value: 10 mg/m ³ Long-term value: 15 mg/m ³
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7704-34-9 sulfur

TLV	Long-term value: 6 mg/m ³
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57-13-6 Urea

WEEL	Long-term value: 10 mg/m ³
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10034-96-5 Manganese(II) Sulfate Monohydrate

ACGIH CEILING	Short-term value: 2 E mg/m ³ Long-term value: 0.5 E mg/m ³
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OSHA CEILING	Short-term value: 2 E mg/m ³ Long-term value: 0.5 E mg/m ³ Ceiling limit value: 5 mg/m ³
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PEL	Ceiling limit value: 5 mg/m ³ as Mn
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REL	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ as Mn
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(Contd. on page 5)

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OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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Trade name: 8-2-12-180-LND-CC

TLV	Long-term value: 0.02* 0.1* mg/m ³ as Mn; *respirable **inhalable fraction
7720-78-7 iron(II) sulfate	
REL	Long-term value: 1 mg/m ³ as Fe
TLV	Long-term value: 1 mg/m ³ as Fe
1319-33-1 Boron	
PEL	Short-term value: 5 mg/m ³ Long-term value: 15 mg/m ³ *OSHA PELs are based on an 8-hour TWA exposure.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:** Tightly sealed goggles

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Granulate

Color:

Whitish

· **Odor:**

Odorless

· **Odor threshold:**

Not determined.

· **pH-value:**

Not applicable.

(Contd. on page 6)

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Trade name: 8-2-12-180-LND-CC

- **Change in condition**
 - Melting point/Melting range:** Not determined.
 - Boiling point/Boiling range:** 445 °C (833 °F)
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:** 260 °C (500 °F)
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable.
- **Density:**
 - Relative density** Not determined.
 - Vapor density** Not applicable.
 - Evaporation rate** Not applicable.
- **Solubility in / Miscibility with Water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **Solvent content:**
 - Organic solvents:** 0.0 %
 - Solids content:** 100 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

7487-88-9 Magnesium Sulphate

Oral	LD50	>2000 mg/kg (rat)
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(Contd. on page 7)

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Trade name: 8-2-12-180-LND-CC

Inhalative LC50/4 h >2000 mg/l (rabbit)
LC50/96 hours 2820 mg/l (Pimephales)

57-13-6 Urea

Oral LD50 8471 mg/kg (rat)

7783-28-0 Diammonium phosphate

Oral LD50 >5000 mg/kg (rat)

Dermal LD50 >5000 mg/kg (rat)

7720-78-7 iron(II) sulfate

Oral LD50 1520 mg/kg (mouse)

1319-33-1 Boron

Oral LD50 2660 mg/kg (rat)

7758-99-8 Copper Sulfate Pentahydrate

Oral LD50 300 mg/kg (rat)

• **Primary irritant effect:**

• **on the skin:** Irritant to skin and mucous membranes.

• **on the eye:**

Irritating effect.

Causes serious eye irritation.

• **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

• **Carcinogenic categories**

• **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

Group 1 - Carcinogenic to humans

Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans

Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

• **NTP (National Toxicology Program)**

None of the ingredients are listed.

• **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

*12 Ecological information

• **Toxicity**

• **Aquatic toxicity:**

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

7487-88-9 Magnesium Sulphate

EC50 2700 mg/l (Green algae)

343.56 mg/l (Water flea)

14567-64-7 Magnesium Sulphate Monohydrate (Kieserite)

EC50 3100 mg/l (Green algae)

(Contd. on page 8)

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Trade name: 8-2-12-180-LND-CC

57-13-6 Urea	
EC50	>10000 mg/l (daphnia)
• Persistence and degradability No further relevant information available. • Behavior in environmental systems: • Bioaccumulative potential No further relevant information available. • Mobility in soil No further relevant information available. • Ecotoxicological effects: • Remark: Harmful to fish • Additional ecological information: • General notes: Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Harmful to aquatic organisms • Results of PBT and vPvB assessment • PBT: Not applicable. • vPvB: Not applicable. • Other adverse effects No further relevant information available.	

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** Non-Regulated Material
- **Packing group**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

*15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

• Section 355 (extremely hazardous substances):

7720-78-7 iron(II) sulfate

• Section 313 (Specific toxic chemical listings):

10034-96-5 Manganese(II) Sulfate Monohydrate

(Contd. on page 9)

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Trade name: 8-2-12-180-LND-CC

7758-99-8	Copper Sulfate Pentahydrate
7733-02-0	Zinc Sulphate (anhydrous)
· TSCA (Toxic Substances Control Act):	
7778-80-5	Potassium Sulfate
7487-88-9	Magnesium Sulphate
7704-34-9	sulfur
57-13-6	Urea
7783-28-0	Diammonium phosphate
7720-78-7	iron(II) sulfate
1319-33-1	Boron
25791-96-2	Poly(oxypropylene) triol
15708-41-5	EDTA feric sodium complex
1332-58-7	Kaolin
7758-99-8	Copper Sulfate Pentahydrate
7733-02-0	Zinc Sulphate (anhydrous)
7631-95-0	Sodium Molybdate

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

57-13-6	Urea	II
10034-96-5	Manganese(II) Sulfate Monohydrate	D
1319-33-1	Boron	I
7733-02-0	Zinc Sulphate (anhydrous)	D, I, II

· TLV (Threshold Limit Value established by ACGIH)

1332-58-7	Kaolin	2 mg/m3
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· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 10)

Safety Data Sheet (SDS)

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Trade name: 8-2-12-180-LND-CC

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Magnesium Sulphate
Manganese(II) Sulfate Monohydrate
Magnesium Sulphate Monohydrate (Kieserite)
Sulfate of Potash Magnesia
sulfur

· **Hazard statements**

Causes skin and eye irritation.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Avoid release to the environment.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

· **State Right to Know**

CAS: 7778-80-5 RTECS: TT5900000	Potassium Sulfate	25-50%
CAS: 7487-88-9 RTECS: OM 4500000	Magnesium Sulphate ⚠ STOT SE 3, H335	15-35%
CAS: 14567-64-7	Magnesium Sulphate Monohydrate (Kieserite) ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	5-10%

(Contd. on page 11)

Safety Data Sheet (SDS)

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Trade name: 8-2-12-180-LND-CC

CAS: 14977-38-8	Sulfate of Potash Magnesia	5-10%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 7704-34-9	sulfur	5-10%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	
CAS: 57-13-6 RTECS: YR 6250000	Urea	5-10%
All ingredients are listed.		

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

• **Date of preparation / last revision** 03/18/2015 / 2

• **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
: Hazardous to the aquatic environment - AcuteHazard, Category 2
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

• *** Data compared to the previous version altered.**

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