

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : ZEP ELEC III PLUS_16N12_12CT

Material number : 000000000000228301

Manufacturer or supplier's details

Company : Zep Inc.

Address : 350 Joe Frank Harris Parkway, SE
Emerson, GA 30137

Telephone : Compliance Services - 877-428-9937

Emergency telephone numbers

For SDS Information : Compliance Services - 877-428-9937

For a Medical Emergency : 877-541-2016 Toll Free - All Calls Recorded

For a Transportation Emergency : CHEMTREC: 800-424-9300 - All Calls Recorded.
In the District of Columbia 202-483-7616

Recommended use of the chemical and restrictions on use

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Aerosol containing a compressed gas
Colour	colourless
Odour	ether-like

GHS Classification

Gases under pressure : Compressed gas
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H280 Contains gas under pressure; may explode if heated.
H302 + H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

P251 Pressurized container: Do not pierce or burn, even after use.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

P501 Dispose of contents/container in accordance with local regulation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration [%]
trans-dichloroethylene	156-60-5	>= 50 - < 70
norflurane	811-97-2	>= 10 - < 20
1,1,1,3,3-Pentafluoropropan	1,1,1,3,3-Pentafluoropropan	>= 10 - < 20
carbon dioxide	124-38-9	>= 3 - < 5

The exact percentages of disclosed substances are withheld as trade secrets.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	: Effects are immediate and delayed. Effects are dependent on exposure (dose, concentration, contact time). Causes skin irritation. Causes serious eye irritation. Review section 2 of SDS to see all potential hazards.
Notes to physician	: Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	: High volume water jet
Specific hazards during firefighting	: Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	: Carbon dioxide (CO ₂) Carbon monoxide Chlorine compounds Smoke Fluorine compounds
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains, inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
trans-dichloroethylene	156-60-5	TWA	200 ppm 793 mg/m3	ACGIH
		TWA	200 ppm	ACGIH

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

norflurane	811-97-2	TWA	1,000 ppm	US WEEL
1,1,1,3,3-Pentafluoropropan	1,1,1,3,3-Pentafluoropropan	TWA	300 ppm	US WEEL
carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m3	NIOSH REL
		ST	30,000 ppm 54,000 mg/m3	NIOSH REL
		TWA	5,000 ppm 9,000 mg/m3	OSHA Z-1
		TWA	10,000 ppm 18,000 mg/m3	OSHA P0
		STEL	30,000 ppm 54,000 mg/m3	OSHA P0
		PEL	5,000 ppm 9,000 mg/m3	CAL PEL
		STEL	30,000 ppm 54,000 mg/m3	CAL PEL

Engineering measures : effective ventilation in all processing areas

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Material

Remarks

: Protective gloves

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Access to clean water to rinse eyes must be available, options include: eye wash stations or showers, or eye wash bottles with pure water.

Safety goggles

Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection

: Impervious clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

: When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

: Aerosol containing a compressed gas

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

Colour	: colourless
Odour	: ether-like
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point	: No data available
Flash point	: does not flash
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: 24.1 hPa
Density	: 1.27 g/cm3
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Viscosity	
Viscosity, kinematic	: No data available
Heat of combustion	: 0.84 kJ/g

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: No data available
Incompatible materials	: No data available
Hazardous decomposition products	: No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Aggravated Medical Condition	: None known.
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SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

Symptoms of Overexposure : Effects are immediate and delayed.
Effects are dependent on exposure (dose, concentration, contact time).
Causes skin irritation.
Causes serious eye irritation.
Review section 2 of SDS to see all potential hazards.
Treat symptomatically. Symptoms may be delayed.

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : 1,976 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : 2.4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

trans-dichloroethylene:

Acute oral toxicity : LD50 Oral Rat: 1,235 mg/kg

Acute inhalation toxicity : LC50 Rat: 24100 ppm
Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal Rabbit: > 5,000 mg/kg

norflurane:

Acute inhalation toxicity : LC50 Rat: 12,503.751 mg/l
Exposure time: 4 h

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

Serious eye damage/eye irritation

Product:

Remarks: May irritate eyes.

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Aspiration toxicity

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Partition coefficient: n- : Remarks: No data available
octanol/water

Components:

1,1,1,3,3-Pentafluoropropan :

Partition coefficient: n- : Remarks: No data available

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

octanol/water

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of in accordance with local regulations.

Contaminated packaging

: Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IMDG (Vessel):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IATA (Cargo Air):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: IATA (Passenger Air):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

Transportation Regulation: TDG (Canada):
UN1950, AEROSOLS, NON-FLAMMABLE, 2.2, - Limited quantity

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
trans-dichloroethylene	156-60-5	1000	1600

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Gases under pressure
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

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

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.

California Prop. 65

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

The components of this product are reported in the following inventories:

DSL All components of this product are on the Canadian DSL
TSCA On TSCA Inventory

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

Print Date 04/27/2025

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

Inventory Acronym and Validity Area Legend:

TSCA (USA), DSL (Canada), NDSL (Canada)

SECTION 16. OTHER INFORMATION

Further information

NFPA:

HEALTH	2
FLAMMABILITY	2
INSTABILITY	0
SPECIAL HAZARD.	

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme

HMIS III:

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA - GHS Label Information:

Hazard pictograms



Signal word

Hazard statements

: **Warning:**
: Contains gas under pressure; may explode if heated. Harmful if swallowed or if inhaled.

SAFETY DATA SHEET

ZEP ELEC III PLUS_16N12_12CT

Version 1.1

Revision Date 10/01/2023

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Precautionary statements : Causes skin irritation. Causes serious eye irritation.

Prevention: Pressurized container: Do not pierce or burn, even after use. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ eye protection/ face protection.

Response: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal: Dispose of contents/container in accordance with local regulation.

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