



PRODUCT SPECIFICATION REPORT

Formula 50 is a multi-purpose, water-based cleaner and degreaser that contains a proven combination of synthetic detergents, water softeners, alkaline builders, corrosion inhibitors and a water-soluble solvent.

FORMULA 50™

Heavy-Duty, All Purpose Cleaner and Degreaser



FEATURES/BENEFITS:

Powerful Cleaning Action	Rapidly removes dirt, grease and grime from a wide variety of surfaces.
Degreases	Dissolves and removes food grease and many industrial oils and greases.
Versatile	Can be used as a general purpose cleaner, floor cleaner, wax and floor finish stripper, engine degreaser and for a variety of other cleaning challenges. May be used by hand or through steam or pressure cleaning equipment, automatic scrubbers, etc.
Inhibited	This product will not harm metal surfaces, including aluminum, when used as directed on the label.
Biodegradable	All detergents and wetting agents are completely biodegradable.
Safer Alternative	Formulation does not contain petroleum or chlorinated solvents, excess caustic, or phosphates, and it is non-toxic by ingestion.

APPLICATIONS:

Recommended as a floor and wall cleaner in all departments of federally-inspected meat and poultry plants. Particularly useful in automotive repair shops, department stores, nursing homes & hospitals, child day care services, eating & drinking establishments, operators of apartment buildings, cleaning & maintenance services, hotels & motels, schools & educational facilities and sports & recreational clubs

COMPANION PRODUCTS:

Vue RTU, Odorstroyer Extra (GreenLink), Ring Master, Ceramic Tile Cleaner, Oven Brite, Acclaim, Head-To-Toe (GreenLink), Stainless Steel Cleaner, Zep 40

SPECIFICATIONS:

Physical Form	Thin, water-based liquid
Color	Clear, Blue-Green
Odor	Slight, butyl
pH (concentrate)	12.5-13.5
Flash Point	None
Specific Gravity	1.07
Shelf Life	1 Year Minimum
D.O.T. Shipping Label	None

ZEP FORMULA 50_4CS GL

Version 5.0

Revision Date 02/24/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : ZEP FORMULA 50_4CS GL

Material number : 000000000000085924

Manufacturer or supplier's details

Company : Zep Inc.

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

Telephone : 404-352-1680

Emergency telephone numbers**For SDS Information** : Compliance Services 1-877-428-9937**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**

Recommended use : Specialty Cleaner and Remover

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Appearance	liquid
Colour	clear, dark blue
Odour	mild

GHS Classification

Skin corrosion : Category 1

Serious eye damage : Category 1

Specific target organ toxicity -
repeated exposure
(Inhalation) : Category 2**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or
repeated exposure if inhaled.Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

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P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 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.

P314 Get medical advice/ attention if you feel unwell.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

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 [%]
2-butoxyethanol	111-76-2	>= 1 - < 5
Sodium metasilicate (disodium salt)	6834-92-0	>= 1 - < 5
tetrasodium ethylenediaminetetraacetate	64-02-8	>= 1 - < 5
Silicic acid, sodium salt	1344-09-8	>= 1 - < 5
Benzenesulfonic acid, C10-16-alkyl derivs.	68584-22-5	>= 1 - < 5

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

SECTION 4. FIRST AID MEASURES

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

If inhaled : Consult a physician after significant exposure.
 If unconscious, place in recovery position and seek medical advice.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

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	Wash off immediately with plenty of water for at least 15 minutes. If on clothes, remove clothes.
In case of eye contact	: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. Rinse immediately with plenty of water for at least 15 minutes. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	: Effects are immediate and delayed. Symptoms may include blistering, irritation, burns, and pain. Effects are dependent on exposure (dose, concentration, contact time). Causes severe skin burns and eye damage. May cause damage to organs through prolonged or repeated exposure if inhaled. 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	: Dry chemical Water Foam Carbon dioxide (CO ₂)
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 Smoke Nitrogen oxides (NO _x) Sulphur oxides
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

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must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation.

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). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid exposure - obtain special instructions before use. 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. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Oxidizing agents
Do not freeze.
Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-butoxyethanol	111-76-2	TWA	20 ppm	ACGIH

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		TWA	5 ppm 24 mg/m ³	NIOSH REL
		TWA	50 ppm 240 mg/m ³	OSHA Z-1
		TWA	25 ppm 120 mg/m ³	OSHA P0
		PEL	20 ppm 97 mg/m ³	CAL PEL

Biological occupational exposure limits

Component	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-BUTOXYETHANOL	111-76-2	Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible after exposure ceases)	200.mg/g Creatinine	ACGIH BEI

Engineering measures : effective ventilation in all processing areas

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection

Material : Protective gloves

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

Eye protection

: Eye wash bottle with pure water
Tightly fitting 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 : liquid

Colour : clear, dark blue

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Odour	: mild
Odour Threshold	: No data available
pH	: > 13
Melting point/freezing point	: No data available
Boiling point	: 104.44 °C
Flash point	: does not flash
Evaporation rate	: 1
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: not determined
Relative vapour density	: No data available
Density	: 1.058 g/cm ³
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, kinematic	: 5.2 mm ² /s (20 °C)

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	: Extremes of temperature and direct sunlight. No data available
Incompatible materials	: Acids Oxidizing agents
Hazardous decomposition products	: Carbon oxides Nitrogen oxides (NO _x)

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SECTION 11. TOXICOLOGICAL INFORMATION
Potential Health Effects

Aggravated Medical Condition : None known.

Symptoms of Overexposure : Effects are immediate and delayed. Symptoms may include blistering, irritation, burns, and pain. Effects are dependent on exposure (dose, concentration, contact time).

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 Confirmed animal carcinogen with unknown relevance to humans

OSHA 2-butoxyethanol 111-76-2
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 : > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 200 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Components:
2-butoxyethanol:

Acute oral toxicity : LD50 Oral Rat: 880 mg/kg

Acute dermal toxicity : LD50 Dermal Rabbit: 1,060 mg/kg

Sodium metasilicate (disodium salt):

Acute oral toxicity : LD50 Rat: 1,153 mg/kg

Skin corrosion/irritation
Product:

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Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

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**Components:****tetrasodium ethylenediaminetetraacetate:**

Exposure routes: Inhalation

Assessment: May cause damage to organs through prolonged or repeated exposure.

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:**

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

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 : No data available
information

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.
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.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IMDG (Vessel):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Cargo Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Passenger Air):
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

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 Transportation Regulation: TDG (Canada):
 NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

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)
ethylbenzene	100-41-4	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Skin corrosion or irritation
 Serious eye damage or eye irritation
 Specific target organ toxicity (single or repeated exposure)

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

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

2-butoxyethanol	111-76-2	3.9593 %
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California Prop. 65


WARNING: This product can expose you to chemicals including ethylbenzene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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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

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

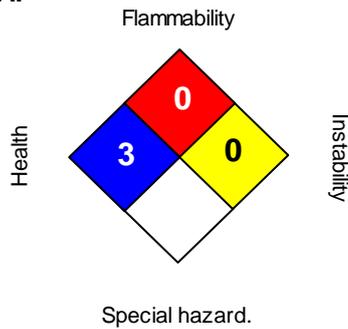
Inventory Acronym and Validity Area Legend:

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

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3*
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 :

Danger:

Hazard statements :

Causes severe skin burns and eye damage. May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements :

Prevention: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. 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. Immediately call a POISON CENTER/doctor. 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. Get medical advice/ attention if you feel unwell. Wash contaminated clothing before reuse.
Storage: Store locked up.
Disposal: Disposal of contents/container in accordance with local regulation.

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Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.