

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS


Printing date 02.09.2015

Revision: 02.09.2015

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: X-Restore Oxidized Metal Part B**
- **Article number:** No other identifiers
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Coating
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
xGen, LLC  
118 Rochester Drive  
Louisville, KY 40214  
Phone: (502) 364-6050
- **1.4 Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924, +1 (813)248-0585

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The following classifications are applicable only to OSHA (USA) regulations and not the specific CLP regulation: H227.  
Flamm. Liq. 4  
H227: Combustible Liquid.
- 
- Acute Tox. 4 H312 Harmful in contact with skin.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.
- **Additional information:**  
There are no other hazards not otherwise classified that have been identified.  
0 % of the mixture consists of component(s) of unknown toxicity.

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- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**  
The following Hazard Statements are applicable only according to OSHA regulations within the United States. These Statements are not applicable for the CLP regulation (1272/2008/EC) in the EU: H227.  
The product is classified and labelled according to the CLP regulation.
  - **Hazard pictograms**



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- **Signal word** Warning
- **Hazard-determining components of labelling:**  
2-butoxyethanol
- **Hazard statements**  
The following Hazard Statements are applicable only according to OSHA regulations within the United States. These Statements are not applicable for the CLP regulation (1272/2008/EC) in the EU: H227. Flamm. Liq. 4  
H227: Combustible Liquid.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.
- **Precautionary statements**  
P264 Wash thoroughly after handling.  
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.  
P362 Take off contaminated clothing.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **NFPA ratings (scale 0 - 4)**  

  - Health = 2
  - Fire = 1
  - Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**  

  - HEALTH 2 Health = 2
  - FIRE 1 Fire = 1
  - REACTIVITY 0 Reactivity = 0
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 111-76-2 EINECS: 203-905-0 Index number: 603-014-00-0	2-butoxyethanol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	25-50%
CAS: 64-19-7 EINECS: 200-580-7 Index number: 607-002-00-6	acetic acid ⚠ Flam. Liq. 3, H226 ⚠ Skin Corr. 1A, H314	<1%

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- **Additional information:**  
For the listed ingredient(s), the identity and exact percentages are being withheld as a trade secret.  
For the wording of the listed Hazard Statements refer to section 16.

## SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Take affected persons out into the fresh air.
- **After inhalation:**  
Supply fresh air; consult doctor in case of complaints.  
Provide oxygen treatment if affected person has difficulty breathing.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After skin contact:**  
Immediately remove any clothing soiled by the product.  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**  
Headache  
Breathing difficulty  
Dizziness  
Coughing  
Irritant to skin and mucous membranes.  
Irritant to eyes.  
Acidosis  
Gastric or intestinal disorders when ingested.  
Nausea in case of ingestion.  
Disorientation
- **Hazards**  
May cause respiratory irritation.  
Harmful in contact with skin.  
Danger of impaired breathing.  
Repeated exposure may cause skin dryness or cracking.  
Vapours may cause drowsiness and dizziness.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
If necessary oxygen respiration treatment.

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Medical supervision for at least 48 hours.

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## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
Can form explosive gas-air mixtures.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information**  
Eliminate all ignition sources if safe to do so.  
Use large quantities of foam as it is partially destroyed by the product.  
Cool endangered receptacles with water spray.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective equipment. Keep unprotected persons away.  
Keep away from ignition sources.  
Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).  
Ensure adequate ventilation.  
Dispose contaminated material as waste according to section 13.  
Send for recovery or disposal in suitable receptacles.
- **6.4 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.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Prevent formation of aerosols.  
Avoid splashes or spray in enclosed areas.  
Use only in well ventilated areas.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.

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Flammable gas-air mixtures may form in empty receptacles.  
When heated the product forms flammable fumes.

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Provide ventilation for receptacles.  
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidising agents.  
Do not store together with alkalis (caustic solutions).
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**111-76-2 2-butoxyethanol**

IOELV (EU)	Short-term value: 246 mg/m <sup>3</sup> , 50 ppm Long-term value: 98 mg/m <sup>3</sup> , 20 ppm Skin
PEL (USA)	Long-term value: 240 mg/m <sup>3</sup> , 50 ppm Skin
REL (USA)	Long-term value: 24 mg/m <sup>3</sup> , 5 ppm Skin
TLV (USA)	Long-term value: 97 mg/m <sup>3</sup> , 20 ppm BEI
EL (Canada)	Long-term value: 20 ppm
EV (Canada)	Long-term value: 20 ppm Skin

**64-19-7 acetic acid**

IOELV (EU)	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
PEL (USA)	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
REL (USA)	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
TLV (USA)	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

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EL (Canada)	Short-term value: 15 ppm Long-term value: 10 ppm
EV (Canada)	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.

· **Ingredients with biological limit values:**

**111-76-2 2-butoxyethanol**

BEI (USA)	200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis
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- **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

Not required under normal conditions of use.

Use suitable respiratory protective device when high concentrations are present.

Use suitable respiratory protective device when aerosol or mist is formed.

For spills, respiratory protection may be advisable.

· **Protection of hands:**



Protective gloves

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

· **Eye protection:**



Safety glasses

· **Body protection:** Solvent resistant protective clothing

· **Limitation and supervision of exposure into the environment**

No further relevant information available.

· **Risk management measures**

See Section 7 for additional information.

No further relevant information available.

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## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:	Liquid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.

· pH-value at 20 °C (68 °F): 4

#### · Change in condition

Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	Undetermined.

· Flash point: >66 °C (>151 °F)

· Flammability (solid, gaseous): Not applicable.

· Auto/Self-ignition temperature: Not determined.

· Decomposition temperature: Not determined.

· Self-igniting: Product is not self-igniting.

· Danger of explosion: Product does not present an explosion hazard.

#### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

#### · Solubility in / Miscibility with

water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

#### · Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· 9.2 Other information: No further relevant information available.

## SECTION 10: Stability and reactivity

· 10.1 Reactivity: No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Keep away from heat and direct sunlight.
- **10.3 Possibility of hazardous reactions**  
Strong exothermic reaction with acids.  
Reacts with acids, alkalis and oxidising agents.  
Toxic fumes may be released if heated above the decomposition point.  
Combustible liquid.
- **10.4 Conditions to avoid**  
Avoid acids.  
Store away from oxidising agents.  
Keep ignition sources away - Do not smoke.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

## SECTION 11: Toxicological information

### · 11.1 Information on toxicological effects

- **Acute toxicity**  
Harmful in contact with skin.

### · LD/LC50 values relevant for classification:

#### 111-76-2 2-butoxyethanol

Oral	LD50	1480 mg/kg (rat)
Dermal	LD50	400 mg/kg (rab)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Acute effects (acute toxicity, irritation and corrosivity):**  
May be harmful if swallowed.  
May be harmful if inhaled.  
Harmful in contact with skin.  
Vapours have narcotic effect.
- **Repeated dose toxicity:** Repeated exposure may cause skin dryness or cracking.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity**  
Based on available data, the classification criteria are not met.
- **Carcinogenicity**  
Based on available data, the classification criteria are not met.
- **Reproductive toxicity**  
Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**  
Based on available data, the classification criteria are not met.
- **Aspiration hazard**  
Based on available data, the classification criteria are not met.

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## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Due to available data on eliminability/decomposition and bioaccumulation potential a prolonged damage of the environment is unlikely.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Contact waste processors for recycling information.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to local official regulations.

## SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT** Not Regulated  
Classified as combustible under US DOT regulations.  
Labeling required for single packages  $\geq 119$  US gal / 450 L to include Combustible symbol and Proper Shipping Name.
- **ADR, IMDG, IATA** Not Regulated
- **14.2 UN proper shipping name**
- **DOT, ADR, IMDG, IATA** Not Regulated

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- **14.3 Transport hazard class(es)**
- DOT, ADR, ADN, IMDG, IATA
- **Class** Not Regulated
- **14.4 Packing group**
- DOT, ADR, IMDG, IATA Not Regulated
- **14.5 Environmental hazards:**
- **Marine pollutant:** No
- **14.6 Special precautions for user** Not applicable.
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- **UN "Model Regulation":** Not Regulated

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· <b>Section 355 (extremely hazardous substances):</b>
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None of the ingredients are listed.
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· <b>Section 313 (Specific toxic chemical listings):</b>
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111-76-2   2-butoxyethanol
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· <b>TSCA (Toxic Substances Control Act):</b>
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All ingredients are listed.
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· <b>Proposition 65 (California):</b>
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· <b>Chemicals known to cause cancer:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity for females:</b>
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None of the ingredients are listed.
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
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None of the ingredients are listed.
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· <b>Chemicals known to cause developmental toxicity:</b>
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None of the ingredients are listed.
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· <b>Carcinogenic Categories</b>
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· <b>EPA (Environmental Protection Agency)</b>
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111-76-2   2-butoxyethanol	NL
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· <b>IARC (International Agency for Research on Cancer)</b>
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111-76-2   2-butoxyethanol	3
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· <b>TLV (Threshold Limit Value established by ACGIH)</b>
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· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
None of the ingredients are listed.
· <b>Canada</b>
· <b>Canadian Domestic Substances List (DSL)</b>
All ingredients are listed.
· <b>Canadian Ingredient Disclosure list (limit 0.1%)</b>
None of the ingredients are listed.
· <b>Canadian Ingredient Disclosure list (limit 1%)</b>
111-76-2   2-butoxyethanol
· <b>Directive 2012/18/EU</b>
· <b>Named dangerous substances - ANNEX I</b>
None of the ingredients are listed.
· <b>Other regulations, limitations and prohibitive regulations</b>
This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.
· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b>
None of the ingredients are listed.
· <b>15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.</b>

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226 Flammable liquid and vapour.  
 H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 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)

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WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

**Sources**

SDS Prepared by:

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