Section 1 - Identification

1(a) Product Identifier used on Label: Thermic Torch, Burning Bar, Lance Pipe, Surecut
1(b) Other means of identification: Refer to Section 16 for product synonyms.
1(c) Recommended use of the chemical and restrictions on use: These products are sold to industries that utilize welding products. The main markets for these products are construction, demolition, and for commercial welding applications.
1(d) Name, address, and telephone number:

Oxylance Inc.
2501 27th Street
Birmingham, AL 35234
Phone number: 205-322-9906
www.oxylance.com

Revision Date:
January 4, 2021

1(e) Emergency phone number: 1-800-333-9906.

Section 2 - Hazard(s) Identification

Thermic Torch, Burning Bar, Lance Pipe, Surecut is not exempt as an article under OSHA's Hazard Communication Standard (29 CFR 1910.1200) due to its downstream use, thus this product is considered a mixture and a hazardous material. Therefore, the categories of Health Hazards as defined in **"Globally Harmonized system of classification and labelling of chemicals (GHS). Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009** have been evaluated. Refer to Section 3, 8 and 11 for additional information.

2(b) Signal word, hazard statement(s), symbols and precautionary statement(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity -2 Reproductive Toxicity - 1 Single Target Organ Toxicity (STOT) Repeat Exposure -1	**Danger**	Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure. May cause an allergic skin reaction. May cause respiratory irritation. Causes eye irritation.
	Skin Sensitization - 1 STOT Single Exposure -3		
NA	Eye Irritation-2B		

Precautionary Statements(s):

Prevention	Response	Storage/Disposal
Do not breathe dusts / fumes / gas / mist / vapor / spray. Wear protective gloves / protective clothing /eye protection / face protection. Contaminated work clothing must not be allowed out of the workplace. Use only outdoors or in well ventilated areas. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.	If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse. Call a poison center/doctor id you fell unwell.	Dispose of contents in accordance with federal, state and local regulations.

2(c) Hazards not otherwise classified: None Known
2(d) Unknown acute toxicity statement (mixture): None Known

Section 3 - Composition/Information on Ingredients

3(a-c) Chemical name, common name (synonyms), CAS number and concentration:

Chemical Name	CAS Number	% weight
(Base Metal)		
Iron	7439-89-6	99 max
(Alloying Elements)		
Aluminum	7429-90-5	0.02-0.07 (dust)
Carbon	7440-44-0	0.08-0.18
Chromium	7440-47-3	0.05 max
Copper	7440-50-8	0.10 max (dust)

Section 3 - Composition/Information on Ingredients(continued)

3(a-c) Chemical name, common name (synonyms), CAS number and concentration(continued):

Chemical Name	CAS Number	% weight
Manganese	7439-96-5	0.03-0.60 (dust)
Molybdenum	7439-98-7	0.05 max
Nickel	7440-02-0	0.06 max
Phosphorus	7723-14-0	0.015-0.035 (yellow)
Silicon	7440-21-3	0.02 max (dust) (respirable fraction)
Sulfur	7704-34-9	0.02 max
Metallic Coating: (Galvanized Pipe Only) Zinc Oxide	7440-66-6	0.70-0.60

CAS - Chemical Abstract Service
*Certain products

- All commercial steel products contain small amounts of various elements in addition to those listed. These small quantities are frequently referred to as "trace" or "residual" elements in the raw materials used. Steel products may contain the following trace or residual elements including typical percentages for the elements identified: Aluminum (typically <0.1), bismuth (0.5 max), boron (≤0.005 max, typically 0.001%), calcium (≤0.005 max, typically 0.0003%), columbium (≤0.15 max, typically 0.002%), phosphorous (≤0.1 max, typically 0.01%), selenium (0.06 max), sulfur (≤0.05 max, typically, 0.0007%), tin (≤0.3 max), tellurium(0.1 max), titanium (≤0.15 max, typically 0.002%), and vanadium (0.5 max). Other trace elements not frequently identified, may include antimony, arsenic, cadmium, cobalt, and zirconium.
- Percentages are expressed as typical ranges or maximum concentrations of trace elements for the purpose of communicating the potential hazards of the finished product. Consult product specifications for specific composition information.
- Product surfaces may be treated with small amounts of corrosion-inhibiting oil that may contain mineral or oil petroleum distillates, or paints, epoxies, laminates, etc., generally applied at the customer's request. Refer to the coating manufacturer's SDS for hazards associated with coatings.

Section 4 - First-aid Measures

4(a) Description of necessary measures:

- **Inhalation: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not a likely form of exposure. However during further processing (welding, grinding, burning, etc.), if inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention.
- **Eye Contact: Thermic Torch, Burning Bar, Lance Pipe, Surecut as** sold/shipped is not a likely form of exposure. However during further processing (welding, grinding, burning, etc.), if in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. If eye irritation persists: Get medical advice/attention. If exposed, concerned or feel unwell: Get medical advice/attention.
- **Skin Contact:** If on skin: Wash thoroughly after handling. Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse. If exposed, concerned or feel unwell: Get medical advice/attention.
- **Ingestion: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not a likely form of exposure. However during further processing (welding, grinding, burning, etc.), if exposed concerned or feel unwell: Get medical advice/attention.

4(b) Most important symptoms/effects, acute and delayed (chronic):

- **Inhalation: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not likely to present an acute or chronic health effect.
- **Eye: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not likely to present an acute or chronic health effect.
- **Skin: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not likely to present an acute or chronic health effect.
- **Ingestion: Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped is not likely to present an acute or chronic health effect.

However during further processing (welding, grinding, burning, etc.) individual components may illicit an acute or chronic health effect.
Refer to Section 11-Toxicological Information.

4(c) Immediate Medical Attention and Special Treatment: None Known

Section 5 - Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Not Applicable for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped. Use extinguishers appropriate for surrounding materials.

5(b) Specific Hazards arising from the chemical: Not Applicable for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped.

grease on torches can cause violent reactions in presence of oxygen.

5(c) Special protective equipment and precautions for fire-fighters: Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: Not Applicable for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material in a dry state, avoid inhalation of dust.

6(b) Methods and materials for containment and clean up: Not Applicable for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Section 7 - Handling and Storage

7(a) Precautions for safe handling: Not Applicable for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped. It is not a likely form of exposure, however during further processing (welding, grinding, burning, etc.) with potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in well ventilated areas. Practice good housekeeping. Avoid breathing metal fumes and or dust. Do not eat, drink or smoke when using this product. Cut resistant gloves and sleeves should be worn when working with steel products.

7(b) Conditions for safe storage, including any incompatibilities: Store away from acids and incompatible materials.

Section 8- Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): Thermic Torch, Burning Bar, Lance Pipe, Surecut sold/shipped in their physical form does not present an inhalation, ingestion or contact hazard, nor would any of the following exposure data apply. However, operations such as burning, welding (high temperature), sawing, brazing, machining, grinding, etc. may produce fumes and/or particulates. The following exposure limits are offered as reference for an experienced industrial hygienist to review. The units are expressed in mg/m^3.

Ingredients	OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Aluminum	15.0 (Total) 5.0 (Respirable)	10.0 5.0 (fume)	10.0 (Total) 5.0 (Respirable)	**NE**
Carbon	15.0 (as total dust, PNOR[5]) 5.0 (as respirable fraction, PNOR)	10.0 (as inhalable fraction,[6] PNOS[7] 3.0 (as respirable fraction,[8] PNOS)	NE	**NE**
Chromium	0.5 (as Cr II & III, inorganic compounds) 1.0 (as Cr, metal) 0.05 (as Cr VI, inorganic compounds & certain water insoluble) "AL" 0.0025 (as Cr VI, inorganic compounds & certain water insoluble)	0.5 (as Cr III, inorganic compounds) 0.05 (as Cr, metal) 0.05 (as Cr VI, inorganic compounds) 0.01 (as Cr VI, inorganic compounds & certain water insoluble)	0.5 (as Cr II & III, inorganic compounds) 0.05 (as Cr, metal) 0.01 (as Cr VI, inorganic compounds & certain water insoluble)	250.0 (as Cr II & metal) 25.0 (as Cr III) 15.0 (as Cr VI)
Copper	1.0 0.1 (fume)	1.0 0.2 (fume)	1.0	100.0
Iron	10.0	5.0		
Lead (inorganic)	0.05 [9] "AL" 0.03	0.05	0.05	100.0
Manganese	5.0 (C) 5.0 (C) (fume)	5.0 11.0 (fume)	(C) 5.0 1.0 (as fume) (STEL) 3.0	500.0
Molybdenum	15.0 (as total dust, PNOR) 5.0 (as respirable fraction, PNOR)	10.0 (as Mo insoluble compounds, inhalable fraction) 3.0 (as Mo insoluble compounds, respirable fraction) 0.5 (as Mo soluble compounds, respirable fraction)	**NE**	**NE**
Nickel	1.0 (as Ni metal & insoluble compounds)	1.5 (as inhalable fraction Ni metal) 0.2 (as inhalable fraction Ni inorganic only insoluble and soluble compounds)	0.015 (as Ni metal & insoluble and soluble compounds)	10 (as Ni)
Phosphorus	0.1	0.1	0.1	5.0
Silicon	15.0 (total dust, PNOR) 5.0 (as respirable fraction, PNOR)	10.0	10.0 (as total dust) 5.0 (as respirable dust)	**NE**
Sulfur	13.0	as Sulfur Dioxide 5.2	as Sulfur Dioxide 5.0	as Sulfur Dioxide 262
Metallic Coating: (Galvanized Pipe Only) Zinc Oxide	5.0 (fume)	5.0 (fume)	5.0 (dust) 5.0 (fume) 15.0(C) (STEL) 10.0	500

Section 8- Exposure Controls / Personal Protection (continued)

NE - None Established

1. OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (C) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Peak is defined as the acceptable maximum peak for a maximum duration above the ceiling concentration for an eight-hour shift. A skin notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring, Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures. A "skin" notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. ACGIH-TLVs are only recommended guidelines based upon consensus agreement of the membership of the ACGIH. As such, the ACGIH-TLVs are for guideline use purposes and are not legal regulatory standards for compliance purposes. The TLVs are designed for use by individuals trained in The discipline of industrial hygiene relative to the evaluation of exposure to various chemical or biological substances and physical agents that may be found in the workplace.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL) - Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health as is the case with ACGIH TLVs, RELs are for guideline purposes only and such are not legal, regulatory limits for compliance purposes.
4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs)" is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994.
5. PNOR (Particulates Not Otherwise Regulated). All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by a limit which is the same as the inert or nuisance dust limit of 15 for total dust and 5 for the respirable fraction.
6. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2015 TLVs ® and BEIs ® Appendix D, paragraph C
7. PNOS (Particulates Not Otherwise Specified). Particulates identified under the PNOS heading are "nuisance dusts" containing no asbestos and <1% crystalline silica. A TWA, TLV of 10 for inhalable particulate and 3 for respirable particulate has been recommended.
8. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2015 TLV's ® and BELS ® Appendix D, paragraph C.

8(a) (1) Job Task Data: Job task data extrapolated over an eight hour TWA. Testing procedures used worst-case scenarios.

Product Name:	"Surecut" (mg/m^3):	"Burn Bar" (mg/m^3):
	Copper 0.39	Copper 1.66
	Chromium 0.099	Chromium 0.19
	Iron Oxide 95.5	Iron Oxide 126.22
	Manganese 0.32	Manganese 0.623

8(b) Appropriate Engineering Controls: Use controls as appropriate to minimize exposure to metal fumes and dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust is necessary for use in enclosed or confined spaces. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

8(c) Individual Protection Measures:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air purifying respirator equipped with P100 filter acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive demand, full-face, supplied air respirator with escape bottle or SCBA.

Warning! Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.

- **Eyes:** Wear appropriate eye protection to prevent eye contact. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use safety glasses to prevent eye contact. Contact lenses should not be worn where industrial exposures to this material are likely. Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations.
- **Skin:** Wear appropriate personal protective clothing to prevent skin contact. Cut resistant gloves and sleeves should be worn when working with steel products. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, and gloves to prevent skin contact. Protective gloves should be worn as required for welding, burning or handling operation. Contaminated work clothing must not be allowed out of the workplace.
- **Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties	
9(a) Appearance (physical state, color, etc.): Solid state, Metallic in color	**9(j) Upper/lower Flammability or Explosive Limits:** NA
9(b) Odor: Odorless	**9(k) Vapor Pressure:** NA
9(c) Odor Threshold: NA	**9(l) Vapor Density (Air=1):** NA
9(d) pH: NA	**9(m) Relative Density:** 7.85
9(e) Melting Point/Freezing Point: ~2750 °F (~1510 °C)	**9(n) Solubility(ies):** Insoluble to water
9(f) Initial Boiling Point and Boiling Range: NA	**9(o) Partition Coefficient n-octanol/water:** ND
9(g) Flash Point: NA	**9(p) Auto-ignition Temperature:** NA
9(h) Evaporation Rate: NA	**9(q) Decomposition Temperature:** ND
9(i) Flammability (solid, gas): Non-flammable, non-combustible	**9(r) Viscosity:** NA
NA - Not Applicable	
ND - Not Determined for product as a whole	

Section 10 - Stability and Reactivity

10(a) Reactivity: Not Determined (ND) for product in a solid form. Do not use water on molten metal.
10(b) Chemical Stability: Steel products are stable under normal storage and handling conditions.
10(c)Possibility of hazardous reaction : None Known
10(d) Conditions to Avoid: Storage with strong acids or calcium hypochlorite
10(e) Incompatible Materials: Will react with strong acids to form hydrogen. Iron oxide dusts in contact with calcium hypochlorite will evolve oxygen and may cause an explosion. Oil and greases on torch can cause a violent reaction in the presence of unburned oxygen.
10(f) Hazardous Decomposition Products: Thermal oxidative decomposition of steel products can produce fumes containing oxides or iron and manganese as well as other alloying elements. Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and welding consumables used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coating on the metal being welded (i.e. paint, painting, galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welders head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from the cleaning and degreasing activities).
When an electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and gas decomposition, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration. Also, new compounds not in the electrodes may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in Section3, plus those from the base metal coating, etc., as noted above.
Reasonable expected fume constituents of this product would include: Complex oxides of iron, manganese, silicon, nickel, copper, carbon dioxide, carbon monoxide, ozone and nitrogen oxides. Some products will also contain antimony, barium, molybdenum, aluminum, magnesium, strontium, tungsten, and or zirconium. Fume limit for manganese may be reached before limit of 5 mg/m3 of general welding fumes is reached.
Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

Section 11 - Toxicological Information

11. Information on toxicological effects: The following toxicity data has been determined for **Thermic Torch, Burning Bar, Lance Pipe; Surecut** when further processed using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA.

Hazard Classification	Hazard Category OSHA	Hazard Symbols	Signal Word	Hazard Statement
Eye Damage/Irritation (covers Categories 1, 2A and 2B)	2B[c]	No Pictogram	**Warning**	Causes eye irritation-Rating due to iron particulate generated from further processing (welding, grinding, burning, etc.)
Skin/Dermal Sensitization (covers Category 1)	1[d]		**Warning**	May cause an allergic skin reaction - Nickel is a skin sensitizer.
Carcinogenicity(covers Categories 1A, 1B, and 2)	2[g]		**Warning**	Suspected of causing cancer. - Rating due to nickel particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.)
Toxic Reproduction (covers Categories 1A, 1B, and 2)	1[h]		**Danger**	Suspected of damaging fertility or the unborn child. - Rating due to nickel and lead particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).
Specific Target Organ Toxicity (STOT) Following Single Exposure (covers Categories 1--3)	3[i]		**Warning**	May cause respiratory irritation. - Rating due to iron particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).
STOT following Repeated Exposure (covers Categories 1 and 2)	1[j]		**Danger**	Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure. - Rating due to nickel, lead or manganese particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).

* Not Applicable - Semi-formed steel products are considered articles under Reach regulation (REACH REGULATION (EC) No 1907/2006) and are not subject to classification under CLP regulation (REGULATION (EC) No 1272/2008).

Toxicological data listed below are presented regardless t classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

a. No LC_{50} or LD_{50} has been established for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut.** The following data has been determined for the

- **Iron:** Rat LD_{50} = 98.6 g/kg (REACH)
  Rat LD_{50} = 1060 mg/kg (IUCLID)
  Rat LD_{50} = 984 mg/kg (IUCLID)
  Rabbit LD_{50} = 890 mg/kg (IUCLID)
  Guinea Pig LD_{50} = 20g/kg (TOXNET)
- **Nickel:** LD_{50}>9000 mg/kg (Oral/Rat)
- **Silicon:** LD_{50} = 3160 mg/kg (Oral/Rat)
- **Carbon**: LD50 = > 10,000 mg/kg (Oral/Rat)
- **Manganese**: Rat LD50 > 2000 mg/kg (REACH)
  Rat LD_{50} > 9000 mg/kg (NLM Toxnet)

b. No Skin (Dermal) Irritation data available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a mixture. The following Skin (Dermal) Irritation information was found for the components:
- **Molybdenum:** May cause skin irritation.

c. No Eye Irritation data available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a mixture. The following Eye Irritation information was found for the components:
- **Iron and Molybdenum:** Causes eye irritation.
- **Silicon:** Slight eye irritation in rabbit protocol.
- **Nickel:** Slight eye irritation from particulate abrasion only.

d. No Skin (Dermal) Sensitization data available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a mixture. The following Skin (Dermal) Sensitization information was found for the components:
- **Nickel:** May cause allergic skin sensitization.

e. No Respiratory Sensitization data available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a mixture or its components.

f. No Germ Cell Mutagenicity data available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a mixture. The following Mutagenicity and Genotoxicity information was found for the components:
- **Iron:** IUCLID has found some positive and negative findings in vitro.
- **Nickel**: EU RAR has found positive results in vitro and in vivo but insufficient data for classification.

g. Carcinogenicity: IARC, NTP, and OSHA do not list **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as carcinogens. The following Carcinogenicity information was found for the components:
- **Welding Fumes**-IARC Group 2B carcinogen, a mixture that is possibly carcinogenic to humans.
- **Chromium (as metal and trivalent chromium compounds)**-IARC Group 3 carcinogens, not classifiable as to their human carcinogenicity.

- **Nickel and certain nickel compounds**-Group 2B-metallic nickel compounds ACGIH confirmed human carcinogen. Nickel- EURAR Insufficient evidence to conclude carcinogenic potential in animals or humans; suspect carcinogen classification Category 2 Suspected of causing cancer.

Section 11 - Toxicological Information continued

h. No Toxic Reproduction data available for **Thermic Torch, Burning Bar, Lance Pipe, Sure cut** as a mixture. The following Toxic Reproductive information was found for the components:

- **Nickel:** Effects on fertility.

i. No Specific Target Organ Toxicity (STOT) following Single Exposure data was available for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as a mixture. The following STOT following Single Exposure data was found for the components:

- **Iron and Molybdenum:** Irritating to Respiratory tract.

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as a whole. The following STOT following Repeated Exposure data was found for the components:

- **Nickel:** Rat 4 week inhalation LOEL 4 . Lung and Lymph node histopathology. Rat 2 yr. inhalation LOEL 0.1. Pigment in kidney effects on hematopoiesis spleen and bone marrow and adrenal tumor. Rat 13 Week Inhalation LOAEC 1.0. Lung weights and Alveolar histopathology.
- **Manganese:** Inhalation of metal fumes-Degenerative changes in human Brain; Behavioral: Changes in motor activity and muscle weakness (Whitlock *et al.*, 1966)

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BELS) with Other Worldwide Occupational Exposure Values 2009, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU_RAR), Concise International Chemical Assessment Documents (CICAD), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS), European Union Classification, Labeling and Packaging. (EU CPL), Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), International Uniform Chemical Information Database (IUCLID), TOXicology Data NETwork (TOXNET), European Risk Assessment Reports (EU RAR).The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

Acute Effects by component:

- **Iron and iron oxides:** Iron is harmful if swallowed, causes skin irritation, and caused eye irritation. Contact with iron oxide has been reported to cause skin irritation and serious eye damage. Particles or iron or iron compounds, which become imbedded in the eye, may cause rust stains unless removed fairly promptly.
- **Carbon:** Not Reported/Not Classified
- **Chromium, chromium oxides and hexavalent chrome:** Hexavalent chrome causes damage to gastrointestinal tract, lung, severe skin burns and eye damage, serious eye damage, skin contact may cause an allergic skin reaction. Inhalation may cause allergic or asthmatic symptoms or breathing difficulties.
- **Manganese and manganese oxides:** Manganese and Manganese oxide are harmful if swallowed.
- **Molybdenum and oxides:** Molybdenum causes skin and eye irritation. Molybdenum oxide is toxic if swallowed, and causes eye irritation.
- **Nickel and nickel oxides:** Nickel may cause allergic skin sensitization. Nickel oxide may cause an allergic skin.
- **Silicon and silicon oxides:** May be harmful if swallowed.

Delayed (chronic) Effects by component:

- **Iron and iron oxides:** Chronic inhalation of excessive concentrations of iron oxide fumes may result in the development of a benign pneumoconiosis, called siderosis, which is observable as an X-ray change, no physical impairment of lung function has been associated with siderosis. Inhalation of excessive concentrations of ferric oxide may enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. Iron oxide is listed as a Group 3 (not classifiable) carcinogen by the International Agency for Research on Cancer (IARC).
- **Carbon:** Chronic inhalation may lead to decreased pulmonary function.
- **Chromium, chromium oxides and hexavalent chrome:** The health hazards associated with exposure to chromium are dependent upon its oxidation state. The metal form (chromium as it exists in this product) is of very low toxicity. The hexavalent form is very toxic. Repeated or prolonged exposure to hexavalent chromium compounds may cause respiratory irritation, nosebleed, ulceration and perforation of the nasal septum. Industrial exposure to certain forms of hexavalent chromium has been related to an increased incidence of cancer. NTP (the National Toxicology Program) Fourth Annual report on Carcinogens cites "certain Chromium compounds" as human carcinogens. ACGIH has reviewed the toxicity data and concluded that chromium metal is not classifiable as a human carcinogen. Hexavalent chromium may cause genetic defects and is suspected of damaging the unborn child. Developmental toxicity in the mouse, suspected of damaging fertility or the unborn child.
- **Manganese and manganese oxides:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections. Occupational overexposure (Manganese) is a progressive, disabling neurological syndrome that typically begins with relatively mild symptoms and evolves to include altered gait, fine tremor, and sometimes, psychiatric disturbances. May cause damage to lungs with repeated or prolonged exposure. Neurobehavioral alterations in worker populations exposed to manganese oxides include: speed and coordination of motor function are especially impaired.
- **Molybdenum and oxides:** Certain handling operations, such as burning and welding, may generate both insoluble molybdenum compounds (metal and molybdenum dioxide) and soluble molybdenum compounds (molybdenum trioxide). Molybdenum compounds generally exhibit a low order of toxicity with the trioxide the more toxic. However, some reports indicate that the dust of the molybdenum metal, molybdenum dioxide and molybdenum trioxide may cause eye, skin, and nose and throat irritation in animals. Also has been reported to cause induction of tumors in experimental animals, suspected of causing cancer. Molybdenum oxide is suspected of causing cancer in humans.
- **Nickel and nickel oxides:** Exposure to nickel dust and fumes can cause sensitization dermatitis, respiratory irritation, asthma, pulmonary fibrosis, edema, and may cause nasal or lung cancer in humans. Nickel causes damage to lungs through prolonged or repeated inhalation exposure. IARC

lists nickel and certain nickel compounds as Group 2B carcinogens (sufficient animal data). ACGIH 2014 TLVs® and BELs® lists insoluble nickel compounds as confirmed human carcinogens. Nickel is suspected of damaging the unborn child.

- **Silicon and silicon oxides:** Silicon dusts are a low-health risk by inhalation and should be treated as a nuisance dust. Eye contact with pure material can cause particulate irritation. Skin contact with silicon dusts may cause physical abrasion.

Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No Data Available for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped**.** However, individual components of the product when processed have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Iron:** LC_{50}: >1000 mg/L; Fish 48 h-EC_{50} > 100 mg/L(Currenta, 2008k); 96 h-L $C_0 \geq$ 50,000 mg/L Test substance: Bayferrox 130 red (95 - 97% Fe_20_3; < 4% SiO_2 and Al_2O_3) (Bayer, 1989a)
- **Hexavalent Chrome**: EU RAR listed as category 1, found acute EC_{50} and LD_{50} to algae and invertebrates <1 mg.
- **Nickel Oxide**: IUCLID found LC_{50} in fish, invertebrates and algae > 100 mg/l.

12(b) Persistence & Degradability: No Data Available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped or individual components.

12(c) Bioaccumulative Potential: No Data Available for **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as sold/shipped or individual components.

12(d) Mobility (in soil): No Data Available for **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as sold/shipped. However, individual components of the product have been found to be absorbed by plants from soil.

12(e) Other adverse effects: None Known

Additional Information: (For individual components, hazards, not products)

Hazard Category: Category 1

Signal Word: Warning

Hazard Symbol:

Hazard Statement: Very Toxic to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

Disposal: Steel scrap should be recycled whenever possible. Possible dusts and fumes from processing operations should also be recycled, or classified by a competent environmental professional and disposed of in accordance with applicable federal, state or local regulations.
Container Cleaning and Disposal: Follow applicable federal, state and local regulations. Observe safe handling precautions.
Please note this information is for Thermic Torch, Burning Bar, Lance Pipe, and Surecut in its original form. Any alterations can void this information.

Section 14 - Transport Information

14(a-g) Transportation Information:
US Department of Transportation (DOT) under 49 CFR 172.101 **does not** regulate **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

Shipping Name: Not Applicable (NA) **Shipping Symbols:** NA **Hazard Class:** NA **UN No.:** NA **Packing Group:** NA **DOT/IMO Label:** NA **Special Provisions (172.102):** NA	**Packaging Authorizations** **a) Exceptions:** NA **b) Group:** NA **c) Authorization:** NA	**Quantity Limitations** **a) Passenger, Aircraft, or Railcar:** NA **b) Cargo Aircraft Only:** NA **Vessel Stowage Requirements** **a) Vessel Stowage:** NA **b) Other:** NA **DOT Reportable Quantities:** NA

International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR) does not regulate **Thermic Torch, Burning Bar, Lance Pipe, and Surecut** as a hazardous material.

Shipping Name: NA **Classification Code:** NA **UN No.:** NA **Packing Group:** NA **ADR Label:** NA **Special Provisions:** NA **Limited Quantities:** NA	**Packaging** **a) Packing Instructions:** NA b) **Special Packing Provisions:** NA **c) Mixed Packing Provisions:** NA	**Portable Tanks & Bulk Containers** **a) Instructions:** NA **b) Special Provisions:** NA

Section 14 - Transport Information (continued)

International Air Transport Association (IATA) does not regulate **Thermic Torch, Burning Bar, Lance Pipe, and Surecut as a hazardous material.**

Shipping Name: Not Applicable (NA) **Class/Division:** NA **Hazard Label:** NA **UN No.:** NA **Packing Group:** NA **Expected Quantities (EQ):** NA	**Passenger & Cargo Aircraft Limited Quantity (EQ)**		**Cargo Aircraft Only**	**Special Provisions:** NA
	Pkg Inst: NA **Max Net Qty/Pkg:** NA	**Pkg Inst:** NA **Max Net Qty/Pkg:** NA	**Pkg Inst:** NA **Max Net Qty/Pkg:** NA	**ERG Code:** NA

Pkg Inst - Packing Instructions Max Net Qty/Pkg - Maximum Net Quantity per Package ERG- Emergency Response Guidebook Code

Transport Dangerous Goods (TDG) Classification: Thermic Torch, Burning Bar, Lance Pipe, Surecut does not have a TDG classification**.**

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to an Oxylance, Inc. product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*
This product and/or its constituents are subject to the following regulations:
OSHA Regulations: Air Contaminate (29 CFR 1910.1000, Table Z-1, A-2, and Z-3): The product, **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a whole is not listed. However, individual components of the product are listed: Refer to Section 8, Exposure Controls and Personal Protection.

EPA REGULATIONS: The product, **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a whole is not listed.
However, individual components of the product are listed:

Components	Regulations
Aluminum	CERCLA, CWA
Carbon	
Chromium	CERCLA, CWA, SARA 313, RCRA, SDWA
Copper	CERCLA, CWA
Lead Compounds	CAA, CWA, SARA 313, RCRA, SDWA
Iron	
Manganese	CAA, SARA 313, SDWA
Molybdenum	CERCLA, CWA
Nickel	CAA, CERCLA, CWA, SARA 313
Phosphorus	CERCLA, CWA, SARA 313
Silicon	
Sulfur	
Metallic Coating:(Galvanized Pipe Only) Zinc Oxide	CERCLA, CWA

SARA 311/312 Potential Hazard Categories: Immediate Acute Health Hazard; Delayed Chronic Health Hazard

Section 313 Supplier Notification: The product, **Thermic Torch, Burning Bar, Lance Pipe, Surecut** contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act and 40 CFR part 372:

CAS #	Chemical Name	Percent by Weight
7440-47-3	Chromium	0.1-1.0
7439-92-1	Lead	<0.9
74401-02-0	Nickel	0-2.2

Regulations Key:
CAA Clean Air Act (42 USC Sec. 7412: 40 CFR Part 61 [As of: 8/18/06]
CERCLA Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A)
CWA Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g), 136(b), (c); 137(b), (c) [as of 8/2/06])
RCRA Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII)
SARA Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65) and Section 313 Toxic Chemicals (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65 [as 6/30/05])
TSCA Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976])
SDWA Safe Drinking Water Act (42 U.S.C. s/s 300 f et seq. [1974])

State Regulations: The product, **Thermic Torch, Burning Bar, Lance Pipe, Surecut** as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations:
Pennsylvania Right to Know: Contains regulated material in the following categories:
- Hazardous Substances: Manganese, Molybdenum and Silicon
- Environmental Hazards: Chromium, and Nickel
- Special Hazardous Substance: Chromium, Manganese, and Nickel

California Prop. 65: Contains elements known to the State of California to cause cancer or reproductive toxicity. This includes chromium compounds, led, and nickel.
New Jersey: Contains regulated material in the following categories:
- Hazardous Substance: Lead, Chromium, Manganese, and Nickel

Minnesota: Lead, Chromium, Manganese, Molybdenum, and Nickel and Silicon
Massachusetts: Lead, Chromium, Manganese, Molybdenum, and Nickel

Section 15 - Regulatory Information Continued

Other Regulations:
WHMIS Classification (Canadian): The product, **Thermic Torch, Burning Bar, Lance Pipe, Surecut** is not listed as a whole. However individual components are listed.

Ingredients	WHMIS Classification
Aluminum	
Carbon	
Chromium	
Copper	
Iron	
Manganese	Reproductive toxicity -Category 2, Specific target organ toxicity - repeated exposure - Category 1, Combustible dusts
Molybdenum	
Nickel	Skin sensitization - Category 1, Carcinogenicity - Category 2, Specific target organ toxicity - repeated exposure - Category 1
Phosphorus	
Silicon	Flammable solids - Category 2, Combustible dusts
Sulfur	
Metallic Coating: (Galvanized Pipe Only) Zinc Oxide	

Section 16 - Other Information

Prepared By: Lori P. Purnell, P.E.

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Additional Information:

Revision Notes: No changes to products

Hazardous Material Identification System (HMIS) Classification

Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH = **1**, Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.
FIRE = **0,** Materials that will not burn
PHYSICAL HAZARD = **0,** Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)

HEALTH = **1,** Exposure could cause irritation but only minor residual injury even if no treatment is given.
FLAMMABILITY = **0,** Materials that will not burn
INSTABILITY = **0,** Normally stable, even under fire exposure conditions, and are not reactive with water.

Workplace Hazardous Material Identification System (W.H.M.I.S.) Classification for Canadian Commerce

Poisonous and Infectious: Class D2: Other Toxic Effects

Any hazardous material which may cause death or permanent damage a result of repeated exposure over an extended period time. Health effects are not always recognized immediately and may range from an irritant to the skin, eyes or respiratory system; up to and including cancer, birth defects, or sterility.

Examples include: Asbestos, Mercury, Acetone, Benzene

Precautions include avoid inhaling gas or vapors; avoid skin and eye contact by wearing the recommended protective equipment and clothing. Do not eat, drink or smoke near these materials and wash hands after handling.

Class D2 hazards are represented by a picture of the letter 'T' with the dot of an exclamation point contained in a circle.

Section 16 - Other Information Continued

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Government Industrial Hygienists	**NIF**	No Information Found
BEIs	Biological Exposure Indices	**NIOSH**	National Institute for Occupational Safety and Health
CAS	Chemical Abstract Service	**NTP**	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ORC**	Organization Resources Counselors
CLP	Classification, Labelling and Packaging	**OSHA**	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	**PEL**	Permissible Exposure Limit
CNS	Central Nervous System	**PNOR**	Particulate Not Otherwise Regulated
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	**PNOC**	Particulate Not Otherwise Classified
HMIS	Hazardous Materials Identification System	**PPE**	Personal Protective Equipment
IARC	International Agency for Research on Cancer	**ppm**	parts per million
LC50	Median Lethal Concentration	**RCRA**	Resource Conservation Recovery Act
LD50	Median Lethal Dose	**REACH**	Registration, Evaluation and Authorization of Chemicals
LD_{LO}	Lowest Dose to have killed animals or humans	**RTECS**	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	**SARA**	Superfund Amendments and Reauthorization Act
LOEL	Lowest Observable Effect Level	**SCBA**	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	**SDS**	Safety Data Sheet
ug/m3	microgram per cubic meter of air	**STEL**	Short-term Exposure Limit
mg/m3	milligram per cubic meter of air	**TLV**	Threshold Limit Value
mppcf	Million particles per cubic foot	**TWA**	Time Weighted Average
MSHA	Mine Safety and Health Administration	**UEL**	Upper Explosive Limit
NFPA	National Fire Protection Agency	**WHMIS**	Workplace Hazardous Materials Identification System

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