

KANDI ENGINEERING PVT. LTD.

MATERIAL SAFETY DATA SHEET

Issued By

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Welding Consumables and Related Products Conform to OSHA 1910.1200

Trade Name: Thermal Lance Pipe / Burning Lance

Hazardous Ingredients

This section lists the ingredients (>0.01%) from which product is manufactured and are defined as hazardous materials according to OSHA Hazardous Communication Standard (29CFR1910.1200). Few fumes and gases produced during normal cutting with this product are covered in the reactivity data section. *N/E = none established.

INGREDIENT	CAS	PERCENT	PEL (OSHA)	TLV (ACGIH)
Iron	7439-89-6	97 - 99.5	10 mg/cu.m	5 mg/cu.m
Carbon	7440-44-0	-.06 - .14	10 mg/cu.m	15 mg/cu.m
Silicon	7440-21-3	1.8 - 4.0	15 mg/cu.m	10 mg/cu.m
Manganese	7439-96-5	< 1.2	C5 mg/cu.m as dust	C5 mg/cu.m as dust
Nickel	7440-02-0	0.01 - 1.5	1 mg/cu.m	1 mg/cu.m
Chromium	7440-47-3	0.02 - 1.13	.1 mg/cu.m	.5mg/cu.m
Chromium(Hexavalent)			N/E	.05 mg/cu.m
Molybdenum	7439-98-7	0.01 - 0.75	5 mg/cu.m	10 mg/cu.m
Sulfur (sulfur dioxide)	7704-34-0	0.02	5 p.p.m.	N/E
Phosphorus	7723-14-0	< 0.05	.1 mg/cu.m	.1 mg/cu.m

Physical & Chemical Characteristics

Steel Tube or Tubes

Fire and Explosion Data

Nonflammable. Welding Arc and sparks can ignite combustibles and flammable products. Reference: ANSI - Z49.1, NFPA-51B

Surface protection Data

Aqueous temporary corrosion protective chemical, applicable in spray and immersion processes from 15 deg C onwards. Suited for passivation of steel and cast iron for subsequent storage in various warehouses. For steel, the preferred concentration is 2-5% in water. Appearance is yellowish liquid while application. pH is 9.0 +/- 0.5. Raw material dependent color changes on the product cannot be excluded; the effectivity will, however, not be impaired.

Physical Hazards (Reactivity Data)

The composition of fumes and gases depends upon material being cut. The quantity of fumes to which a workman is exposed depends upon the cutting process, number of workmen in the area also cutting, volume of area, amount of ventilation and if workman keeps his/her head out of fume plume.

Fumes and gas products may reasonably be expected when the lance is consumed in normal operation. Included are those originating from the oxidation, volatilization and reaction of the ingredients listed in the hazardous ingredients section, plus those from the base metal.

FUMES/GASES	CAS	PEL (OSHA)	TLV (ACGIH)
Iron Oxide	1309-38-2	5 mg/cu.m	10 mg/cu.m
Carbon Dioxide	124-30-9	5000 p.p.m.	5000 p.p.m.
Carbon Monoxide	630-08-0	50 p.p.m.	59 p.p.m.

Health Hazards

The ACGIH recommended TLV for cutting fume NOC (not otherwise classified) is 5 mg/cu.m. See reactivity data for specific fume constituents which may modify this PEL/TLV.

ACUTE OVER EXPOSURE to cutting fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of the nose, throat or eyes. In confined area, may lead to unconsciousness and death.

CHRONIC OVER EXPOSURE to cutting fumes may lead to siderosis, and is believed by some investigators to reduce pulmonary function.

EMERGENCY / FIRST AID PROCEDURES: Provide oxygen if breathing is labored. If not breathing, give artificial respiration and get medical help. Treat skin areas exposed to burns. Obtain medical aid for all overexposure and eye injuries.

CARCINOGENICITY: Products do not contain ingredients that are defined as carcinogenic per 29CFR1910.1200.

Special Protection Information/Control Measures

AIR SAMPLING: To determine the composition and quantity of fumes and gases to which workers are exposed, take air samples inside the workers helmet and shield, or breathing zone. Reference: ANSI/AN-F1.1

VENTILATION: Use general ventilation, local exhaust at the torch tip, or general vicinity, to keep fumes and gases below the PEL/TLV in the workers breathing zone and general area. Train the worker to keep his/her head out of the fume plume.

RESPIRATORY PROTECTION: Use NIOSH approved respirator, or air supplied respirator when cutting in confined spaces or where ventilation does not keep fume exposures bel PEL/TLV.

EYE PROTECTION: Wear goggles, face shield or welding helmet, with the correct shade or filter lens. Provide protective screens and flash goggles to shield others.

PROTECTIVE CLOTHING: As a minimum wear aluminized/leather gloves, arm and shoulder protection, apron, face shield and hard hats. Reference: ANSI - Z49.1

CLEANUP OF SPILLS: Not Applicable.

WASTE DISPOSAL: Discard any products, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with local, state and federal regulations.

OXYGEN: These lances are used with a single gas which is oxygen. Oxygen causes rapid burning. Do not use oxygen to blow off clothing or materials as a spark could ignite oxygen saturated materials and cause burns.

"Personal safety depends on sincere safety-mindedness and good judgment on the part of each individual, not on occasional intervals, but continuously as an integral part of daily activity."

The best insurance against accidents and injuries may be summed up in five short sentences.

- Know your job and the pertinent safety rules.
- Be aware of hazards in the work area.
- Keep your mind on the job.
- Use common sense.
- If you can't do it safely, don't do it.

Improper use of Lance Pipe can result in personal injury or death. It is essential that all burn cutting tools be used in accordance with instructions in conjunction with site specific safety operating procedures. Therefore, study all instructions carefully and ensure all instructions are completely understood prior to use of any exothermic cutting tools.