KOBELCO

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MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier: Covered electrode
Trade Name: LB-52, LB-52U
Manufacturer/Supplier: Kobe Welding (Singapore) Pte. Ltd.
Under license from Kobe Steel, Ltd., Welding Company

Address: Dynaweld Industrial Supplies Pty Ltd
123 Fairford Road
Padstow, NSW 2211
Australia
Telephone number: Ph: +61 2 9772 1144
Fax number: Fx: +61 2 9774 1685
Emergency telephone number:

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	Weight %	ACGIH TLV mg/m^3
Iron	7439-89-6	Balance	5
Calcium carbonate	471-34-1	8-18	10
Calcium fluoride	7789-75-5	≦8	2.5 as F
Titanium dioxide	13463-67-7	≦5	10
Manganese	7439-96-5	≦5	0.2
Silicon	7440-21-3	≦5	10
Silicon oxide	7631-86-9	≦5	N/A
Sodium silicate	1344-09-8	≦2	N/A
Potassium silicate	1312-76-1	≦2	N/A
Others (Barium carbonate, Aluminum oxide etc.)	---	≦5	---
Barium carbonate	513-77-9	---	N/A
Aluminum oxide	1344-28-1	---	10

3. HAZARDS IDENTIFICATION

Avoid eye contact or inhalation of dust from the product. Skin contact is normally not hazardous but should be avoided to prevent possible allergic reaction. Occupational exposure limits of components are described in section 2. When this product is used in a welding process the most significant hazards are electric shock, fumes, gases, radiation, spatter, slag and heat.

Shock: Electric shock can kill.

Fumes: Overexposure to welding fumes may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function.

Gases: Gases may cause gas poisoning.

Radiation: Arc rays can severely damage eyes or skin.

Spatter, slag and heat: Spatter and slag can damage eyes. Spatter, slag, melting metal, arc rays and hot welds can cause burn injuries and start fires.

4. EMERGENCY FIRST AID MEASURES

In case of emergency, call for medical aid. Employ first aid technique recommended by the Red Cross.

General: Move to fresh air and call for medical aid.

Inhalation: If breathing is difficult, provide fresh air.

Skin contact: Cool area with ice or cold water.

Eye contact: Do not rub eyes. Rinse eyes with clean water.

Electric shock: Disconnect and turn off power. If the victim is semi- or unconscious, open the airway. If the victim cannot breath, give artificial respiration. If there is no pulse, massage the chest and apply artificial respiration.

5. FIRE FIGHTING MEASURES

No specific for welding consumables

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to section 8

Environmental precautions: Refer to section 13

Method for cleaning up: Refer to section 13

7. HANDLING AND STORAGE

Prevention of electric shock:

Do not touch live electrical parts such as the welding wire and welding machine terminals. Wear insulated gloves and safety boots.

Prevention of fire and explosion:

Remove flammable and combustible materials and liquids.

Prevention of harm when handling welding consumables:

Handle with care to avoid stings and cuts. Hold the welding wire manually when loosening the wire.

Caution for storage:

Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside a wall. Keep welding consumables away from chemical substances like acids which could cause chemical reactions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLVs in the worker's breathing zone and the general area. Use extra ventilation when welding galvanized plate or coated plate.

Respiratory protection:

Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV. Keep head out of the fumes and gases.

Eye protection:
Wear helmet or use face shield with filter lens. As a rule of thumb, start with a shade which is too dark to see the weld zone. Then go to the next lighter shade which gives sufficient view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.

Protective clothing:
Wear head, hand, and body protection which help to prevent injury from radiation, sparks and electric shock. At a minimum, this includes welder's gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

Ear protection:
Wear earplugs or earmuffs when using engine driven arc welding machine or pulsed arc welding machine that generates high-level noise.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid, non-volatile
Odor: Odorless
Color: Grayish
Form: Ranging in diameter from 2.6 mm to 6.0 mm

10. STABILITY AND REACTIVITY

General: This product is intended only for normal welding purposes.
Stability: This product is stable under normal conditions.
Reactivity: Contact with chemical substances like acids could cause generation of gas.

Hazardous decomposition products includes those from the volatilization, reaction or oxidation of the materials listed in section 2 and those from the base metal and coating.
Reasonably expected fume constituents of this product would include oxides of metals as iron, manganese and chromium.
Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone.

11.TOXICOLOGICAL INFORMATION

Inhalation of welding fumes and gases can be dangerous to your health. The composition and quantity of both are dependent upon the material being worked, the process, procedures, and consumables used.

Acute toxicity: Overexposure to welding fumes may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic toxicity: Overexposure to welding fumes may affect pulmonary function. Overexposure of manganese may affect the nervous system.

12. ECOLOGICAL INFORMATION

Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

13.DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available. Residues from welding consumables and processes could degrade and accumulate in soils and groundwater.

14. TRANSPORT INFORMATION

No international regulations or restrictions are applicable.

15.REGULATORY INFORMATION

Warning text on label:

PROTECT yourself and others. Read and understand this information.
FUMES AND GASES can be hazardous to your health.
ARC RAYS can injure eyes and burn skin.
ELECTRIC SHOCK can KILL.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheets (MSDSs), and your employer's safety practices.
- Keep your head out of the fumes.
- Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.
- Do not touch live electrical parts.

16. OTHER INFORMATION

Refer to:

USA: American National Standard (ANSI) Z49.1 "Safety in Welding, Cutting, and Allied Processes", American Welding Society, 550 N. W. LeJeune Road, Miami, Florida, 33126, USA,
Occupational Safety and Health Administration (OSHA) Safety and Health Standards, 29CFR 1910, U.S Gov. Printing Office, Washington, D.C. 20402, USA,
American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240-1634, USA.

This Material Safety Data Sheet (MSDS) describes the products with respect to safety requirements. This MSDS is prepared in accordance with ISO 11014-1, Safety data sheet for chemical products – Part 1: Content and order of sections. The information given in this MSDS is based on the present level of our knowledge and experience. Kobe Steel, Ltd. requests the users of this product to study the MSDS and become aware of product hazards and safety information. The data given is not intended as a confirmation of product properties and does not constitute a legal contractual relationship, nor should it be used as basis for ordering these products.