1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of substance

Product identifier : Welding Flux
Product name/s : HJ431

1.2 Use of substance

Use of substance : Submerged Arc Welding
Main use category : Industrial use Professional use
Industrial category : Welding

1.3 Company undertaking identification

Supplier LUOYANG PEONY WELDING MATERIAL GROUP CO.,LTD
Industry Cluster District, Yiyang County, Luoyang City, Henan, China
Company role: Manufacturer and Supplier
Website: www.lymdhj.com

2. HAZARDS IDENTIFICATION

2.1 Classification and General Hazards

Submerged arc fluxes mentioned in this MSDS do not contain nickel. They are not classified as hazardous to health and environment according to present regulations

2.2 Label elements

Submerged Arc fluxes in this product form do not require labeling under current chemical product classification and labeling regulations, if they are not classified as hazardous to health and environment

2.3 Other hazards

Processes which generate particulates during welding can cause hazards to health or environmental effects and they may cause an allergic reaction on contact with skin or by inhalation. The submerged arc fluxes do not meet the criteria for PbT or vPvB in accordance with Annex XIII.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance / Preparation

For information on each substance in the submerged arc fluxes, see 3.2.

3.2 Mixture

The substances in the preparation are as follows:

Ingredient	CAS nr	EINICS nr	Risk phrase	Concentration Max weight%
Bauxite	1344-28-1	215-691-6	N.A.	45
Rutile	1317-80-2	215-282-2	N.A.	35
Magnesite	1309-48-4	215-171-9	N.A.	35
Quartz	14808-60-7	238-878-4	R20; R48	30
Zircon	12036-23-6	234-843-2	N.A.	30
Fluorspar	7789-75-5	14542-23-5	N.A.	25
Silicate	1312-76-1	215-199-1	R36; R37; R38	25
Manganese ore	1317-35-7	215-266-5	N.A.	20
Wollastonite	13983-17-0	237-772-5	N.A.	10
Si and/or Si-alloys and compounds (as	7440-21 -3	231-130-8	N.A.	5
Mn and/or Mn-alloys and compounds (as	7439-96-5	231-105-1	N.A.	5
Calcium carbonate	1317-65-3	215-279-6	N.A.	5

4. FIRST AID MEASURES

4.1 Submerged arc fluxes in their normal use condition, or particles from the electrode are not determined to be measurably toxic. An average content in the air of a single substance at the level of the limit considered, with current knowledge, generally does not present any risk of injury or discomfort. It is important to minimize exposure to multiple air pollutants simultaneously or exposure to air pollution related to heavy work. There is no indication of immediate medical attention or special treatment related to use of the submerged arc fluxes

4.2 In the case of general inhalation, reactive or allergic skin contact, or eye contact show this safety data sheet to the physician attending. If breathing is difficult, provide fresh air and contact physician. For skin burns from arc radiation, seek medical attention.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Submerged arc fluxes are non-combustible as a solid. Where metal dust or powder is involved, cover with dry sand, chemical powder, or other dry inert material to minimize the risk of explosion.

5.2 Advice for fire-fighters : Use normal safety equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Not applicable to submerged arc fluxes in solid form. In particulate form, wear personal protective equipment as specified in Section 8. Avoid contact with the skin. Do not inhale dust.

6.2 Environmental precautions

Collect powder using a vacuum cleaner or by careful sweeping to keep dust away from drains, surface and ground water. Prevent particulates from entering watercourses or drains. Avoid formation of dust clouds.

6.3 Methods and material for containment and cleaning up

Collect powder using a vacuum cleaner or by careful sweeping.

6.4 Reference to other sections - See also section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special precautions are necessary for submerged arc fluxes in solid form other than normal physical handling techniques. Extraction should be used when working with particulate material (dust, fumes, mist). Avoid prolonged inhalation of dust. Wear gloves to avoid skin contact (see Section 8).

7.2 Do not to eat, drink or smoke in work areas and wash hands or shower when leaving the working areas.

7.3 Conditions for safe storage, including any incompatibilities: Store in a dry environment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read and understand the "Recommendations for Exposure Scenarios, Risk Management Measures and Operational Conditions" under which metals, alloys and metallic articles may be safely welded.

Welding and Brazing activities can produce fumes which can affect human health and the environment. These fumes are a varying mixture of airborne gases and fine particles which, if inhaled or swallowed, may constitute a health hazard. The degree of risk will depend on the composition of the fume, concentration of the fume and duration of exposure. The fume composition is dependent upon the material being worked, the process and consumables being used, coatings on the work such as paint, galvanizing or plating, oil or contaminants from cleaning and degreasing activities. A systematic approach to the assessment of exposure is necessary, taking into account the particular circumstances for the operator and ancillary worker that may be exposed.

8.1 Due to possible emission of fumes when welding, brazing or cutting of metals, it is recommended to arrange risk management measures through applying general information and guidelines provided by this exposure scenario and, using the information provided in this MSDS the employer shall ensure that the risk from welding fumes to the safety and health of workers is eliminated or reduced to a minimum. The following principles should be applied:

8.2 Select the applicable process/material combinations with the lowest class, whenever possible.

8.3 Set welding processes with the lowest available emission parameters.

8.4 Apply the relevant collective protective measures in accordance with class number. In general, the use of PPE is taken into account after all other measures is applied.

8.5 Wear the relevant personal protective equipment in accordance with the duty cycle.

8.6 MAC, PEL, TLV values vary per element as well as per country. Check your national limit values.

8.7 Exposure control

Always check the applicability of any protective equipment with your supplier.

8.8 Eye/face protection

Always wear eye protection when handling dusts and other particulates - safety glasses with side protection, safety goggles or visor.

8.9 Skin protection

Always wear protective clothing when handling dust and other particulates.

8.10 Hand protection

Wear hand protection, such as leather gloves when handling the SAW process to avoid cuts or burns. Always wear disposable nitrile or vinyl gloves when handling particulate material to avoid skin contact. Where necessary wear the disposable gloves under work gloves to protect against both types of hazard.

8.11 Respiratory protection

Submerged arc fluxes delivered in solid form pose no health risk through inhalation. Extraction should be used when working with particulate material (dust, fumes, mist). In case of prolonged or frequent exposure to particulates, wear a particle filter mask.

8.12 General hygiene measures

Wash hands well with soap and water after handling dusty materials. Wash contaminated clothing to avoid secondary contamination or contamination of other personnel.

8.13 Thermal hazards

Ensure adequate ventilation to keep levels of air-borne particles below occupational exposure limits given above. Working areas should be provided with extraction. Factories should be kept clean to avoid any unnecessary contamination.

8.14 Environmental exposure control

Avoid allowing dust and fumes to enter the outside air.

In addition, compliance with the applicable National Regulations regarding the exposure to welding fumes of welders and related personnel should be verified

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

9.1 Appearance : Agglomerated grains

9.2 Odor : Odorless

9.3 Melting- / freezing point: 1200 -1500℃ Density : 1.0 - 1.5 kg/dm3

Note: These are typical values and are not a specification.

9.4 Other information

No other physical or chemical parameters are necessary or required for submerged arc fluxes.

10. STABILITY/REACTIVITY

10.1 Reactivity

Submerged arc fluxes are stable. No reaction will take place under normal circumstances.

10.2 Chemical stability

Submerged arc fluxes are stable under normal conditions.

10.3 Possibility of hazardous reactions

See section 8

10.4 Conditions to avoid

No special conditions need to be avoided for submerged arc fluxes, however keep dust and fumes from entering the environment.

10.5 Incompatible materials

Contact with acids can generate explosive gases, eg hydrogen.

10.6 Hazardous decomposition products

Submerged arc fluxes and their by products are stable under normal conditions

11. TOXICOLOGICAL INFORMATION

11.1 General

Inhalation of welding fumes, dust and gases can be hazardous for health.

11.2 Chronic toxicity

Overexposure to welding fumes and dust may affect pulmonary function. Welding fumes and dust may contain chromium, and nickel compounds which are suspected of being cancer causing agents.

11.3 Acute toxicity

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Submerged arc fluxes may contain metals which are considered to be toxic towards aquatic organisms.

12.2 Persistence and degradability

Submerged arc fluxes consist of elements that cannot degrade any further in the environment.

12.3 Mobility in soil

Submerged arc fluxes are not soluble in water or soil.

12.4 Results of PBT and vPvB assessment

No chemical safety report is required for submerged arc fluxes. Neither the submerged arc fluxes in their usable form or the substances they consist of, meet the criteria for PBT or vPvB in accordance with REACH, Annex XIII.

12.5 Other adverse effects

In massive form, submerged arc fluxes present no hazards to the aquatic environment. Particles and ions can, never the less, enter the aquatic compartment by means of dusts or smoke, or by liberation due to erosion thereby introducing iron or heavy metals into the ground or water.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Non-contaminated waste from production and submerged arc fluxes are recyclable. The unused product is not classified as hazardous waste. Dispose in accordance with appropriate government regulations. Any residues of finely divided product (particles, dust, fumes) may be regarded as Hazardous Waste, depending on local regulations.

13.2 EU and Local legislation

The recommendations given are considered appropriate for safe disposal. However, local regulations may be more stringent and these must be complied with. EUrAL CODE : 120113

14. TRANSPORT INFORMATION

14.1 UN number

Submerged arc fluxes are not classified as dangerous goods for transport and have no UN number.

14.2 UN proper shipping name

Submerged arc fluxes are not classified as dangerous goods for transport and have no UN proper shipping name

14.3 Transport hazard class(es)

Submerged arc fluxes are not classified as dangerous goods for transport.

14.4 Packing group

There are no any special precautions with which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises.

14.5 Environmental hazards

Submerged arc fluxes are not environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID and ADN) and/or a marine pollutant according to the IMDG Code.

14.6 Special precautions for user

There are no any special precautions which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises of the welding rods.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Submerged arc fluxes in massive form are not subject to MARPOL73/78 and the IBC Code.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture are prepared according to EU Directives 1907/2006 (REACH) & 1272/2008 (CLP). Classifications mentioned in section 3 concerns substances in their crushed form. Welding electrodes in massive form do not require labeling under current chemical product classification and labeling regulations, if they are not classified as hazardous to health and environment. Welding electrodes in particulate form such as dust, fumes, or mist may cause an allergic reaction on contact with skin or if inhaled.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the product.

15.3 Full text of R-phrases used in Section 3

R20 Harmful by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin

R48 Danger of serious damage to health by prolonged exposure through inhalation

16. OTHER INFORMATION

Protect yourself and others. Take precautions when welding. Follow your employers' safety practice, which should be based on manufacturer's hazard data available to your employer. Fumes and gases can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. Read and understand the manufacturer's instructions 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. U.K.: see WMA No.236 and 237 and HSE Guidance Note EH 40. U.S.A.: See American Standard Z 49.1 "Safety in Welding and Cutting", published by the American Welding Society, 550 Le Jeune Rd, Miami, Florida 33126-5699; OSHA Safety and Health Standards, 29 CFR 1910, available from U.S. Government printing office, Washington D.C. 20402-0001.

All national/local prescriptions remain applicable. The data given in this sheet relates to the unused product, unless specified otherwise.

General Disclaimer

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

REACH Disclaimer

This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation.