



Dear Sir,

Please find some information about our company and its products and services:

1- Product Specifications:

We mine and produce Micronized Natural Bitumen known as Gilsonite which is the trade mark of American Gilsonite in different physical and elemental specifications in accordance to the requirements of the customers and the applications they are to be used in.

Natural Bitumen("Gilsonite-Like") is a hydrocarbon and a organic material. It is the best humidity insulator in natural environment(in the nature). It is the best and of highest quality as well as the most cost benefit additive raw material for humidity insulation products and also in civil engineering as heat resistant's and insulations due to its much higher softening point. (It increases the softening point between 140 up to 250 degrees centigrade).

It looks very much like coal but much lighter and different.

Unfortunately many mix it with coal for it to gain more weight which destroys the material and final products totally.

The most important specs when a order is to be put in place are:

1) Ash%; which is the percentage of the organic hydrocarbon to the minerals along with it. It determines its purity.

We mine, produce and sort our raw material in the Ash content given bellow:

(Less than 2%), (Less than 5%) (5-10)%, (10-15)%, (15-20)%, (20-25)%, (25-30)%.

2)Mesh; The micronized size.

We grind and micronize in the bellow sizes:

30 up to 400 Mesh;

(30-40-50-60-70-80-90-100-200-300-400)Mesh

3)Softening Point.

Varies from 140 up to 250 degrees centigrade. For your information many clients and specially N-Users might prefer lower softening point because it gives the final product enough heat resistance as well as it takes less energy to melt and mix in the bond(specially in civil engineering products)(production costs). Many prefer 180

4)Solubility percentage.

Higher the solubility, better results and quality is gained which means it mixes better and more in the bond with other raw material therefore it covers the molecules of the other raw materials better and will be more effective.

2- Applications:



Used in all humidity insulations. In civil engineering in all humidity and heat insulation products. For example; industrial bitumen, isogam or roofing products and etc, asphalt, ink, paint and resin, drilling mud, glue, insulations used in gas pipelines and etc, concrete, cosmetics(remel), all composites like in auto industries or marine and also aviation as well as aerospace and etc...

3- Markets are all over the globe, for example:

- BRIC countries.
- Developing countries.
- Industrial Countries.

4- Production capacity is over 4000 tons per month. Approximately 70,000 - 100,000 Mt per year of micronized gilsonite powder with 100% accuracy in size and also uniform. + and - 2% tolerances in other specs explained above.

All processes in the mines and the factory, products and packaging are monitored in detail by our chemists in JAHAN ARTA s equipped laboratory to certify that all specs meet with the requirements and contracts. Total Quality Management(TQM).

5- At the moment Prices defer between 5,000,000 Rials/Mt up to 20,000,000 Rials/Mt depending on the materials and processing specifications.

Please note that the raw material rates are floating.

For your information; with lower Ash %(higher purity):

- Lower Softening point unless the characteristics of the mine or the molecule chain.
- Always higher Solubility%

And with higher Ash%, vice versa.

Higher Mesh = Higher quality and quantity and more expensive processing. Could be chosen according to the demands of the markets and abilities cost wise for price competition. Finally higher mesh is more cost benefit and of competitive advantages.

Higher Material quality and higher Mesh size = Higher quality and more Mass which enables to cover more and also more cost benefit.



Gilsonite (Natural Bitumen) Specification

Physical properties of grade

No	Test	Result	Test Method
1	Ash Content,wt%	10~30	ASTM-D3174
2	Moisture Content,wt%	≤3	ASTM-D3173
3	Volatile Matter,wt%	63	ASTM-D3175
4	Fixed Carbon,wt%	29	ASTM-D3172
5	Solubility in CS ₂ ,wt%	81	ASTM-D4
6	Specific Gravity @ 25 C°	1.11	ASTM-D3289
7	Normal Heptane Insolubles,wt%	86	ASTM-D3279
8	Color in mass	Black	-----
9	Color in streak or powder	brown	-----
10	Softening Point, C°	225 ± 5	ASTM-D36
11	Penetration @ 25 C° , 10 ⁻¹ mm	0	ASTM-D5
12	Solubility in trichloroethylene	56	ASTM-D2042
Element Analysis			
1	Carbon,wt%	74	ASTM-D5291
2	Hydrogen,wt%	7.1	ASTM-D5291
3	Nitrogen,wt%	0.67	ASTM-D5291
4	Oxygen,wt%	3.1	ASTM-D5291
5	Sulphur,wt%	4	Leco(s)Analyzer



MATERIAL SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Name: Natural Asphalt

Synonym: Gilsonite

Variant:-----

Manufacturer's Name: JAHAN ARTA INTERNATIONAL COMPANY

Address: C58-59, Chemical Block, Bistoon Industrial Town, Kermanshah, Iran.

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Section 2: Composition Information on Ingredients

Gilsonite consists primarily of carbon, hydrogen, nitrogen, oxygen, and sulfur, as well as trace amounts of vanadium and nickel.

Section 3: Hazard Identification

Non Hazardous Substance. Non Dangerous Goods.

Section 4: First Aid Measures

Eye contact: If in eyes, hold the eyelids apart and flush the eye continuously with running water. for at least 15 minutes. Transport to hospital or doctor

Ingestion: Rinse mouth out with plenty of water. For advice, contact a Poisons Information Centre or a doctor. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.



Inhalation: If dust is inhaled, remove from contaminated area. Encourage patient to blow nose to ensure clear breathing passages. Ask patient to rinse mouth with water but to not drink water. Seek immediate medical attention.

Skin Contact: Brush off dust. and Wash affected areas with warm water and soap. If irritation continues, seek medical attention.

Section 5: Fire Fighting Measures

Flammable properties: Flammable solid. May ignite on contact with heat, sparks or flame.

Extinguishing media: There is no restriction on the type of extinguisher which may be used

Special fire fighting procedure: Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves for fire only. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use Combustible.

Unusual fire and explosion hazard:Not considered to be a significant fire risk. Slight hazard when exposed to heat, flame and oxidizers.Moderate dust explosion hazard, when exposed to flame.

Section 6: Accidental Release Measures

Personal precautions: Clean up all spills immediately. Clear area of personnel. If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator. Wear impervious gloves and safety glasses. Use dry clean up procedures and avoid generating dust. Sweep up. Place in suitable containers for disposal.

Environmental precautions: Clean up all spills immediately. Sweep up. Place in suitable containers for disposal.

Section 7: Handling and Storage



Handling: Avoid generating and breathing dust. Avoid contact with eyes. Avoid physical damage to containers. When handling, DO NOT eat, drink or smoke.

Keep containers securely sealed when not in use. Wash hands with soap and water after handling.

Storage: Check that containers are clearly labelled. Multi-wall paper container.

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

Avoid storage with oxidizers.

Keep dry. Store in a cool, dry place. Protect containers against physical damage. Keep containers securely sealed. Check regularly for spills and leaks.

Section 8: Physical and Chemical Properties

Appearance: solid dust, does not mix with water.

Odor: Methane odor and other volatile gases

Color: Black/brown

PH (27 °C): Not applicable

Viscosity (27 °C, cP): 1050 estimated

Total plate count (cfu/g):-----

Yeast & mould count (cfu/g):-----

Section 9: Stability and Reactivity Data

Stability: Product is considered stable and hazardous polymerisation will not occur.

Condition to avoid: None

Hazardous decomposition: None

Section 10: Toxicological Information



Swallowed: Considered an unlikely route of entry in commercial/industrial environments. The dust is discomforting and is regarded as non-toxic if swallowed. Ingestion may result in nausea, abdominal irritation, pain and vomiting.

Eye: Generated dust may be discomforting and abrasive to the eyes.

Skin: The dust is mildly discomforting to the skin if exposure is prolonged and may cause drying of the skin, which may lead to dermatitis and may cause transient staining of the skin. The material may accentuate any pre-existing dermatitis condition.

Inhaled: Not normally a hazard due to non-volatile nature of product. Generated dust may be discomforting to the upper respiratory tract if inhaled.

Chronic Health Effect: Principal routes of exposure are usually by eye contact, skin contact with the material and inhalation of vapour/spray mist. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice. While generally regarded as having low toxicity reports of irritation and skin sensitisation have been reported when exposure to fine gilsonite dust has occurred for long periods.

However studies have shown no pulmonary involvement for workers exposed to levels above dust exposure standard.

Toxicity and irritation: Not available. Refer to individual constituents GILSONITE: no data of toxicological significance identified in literature search.

Section 11: Ecological Information

No Data available

Section 12: Disposal Consideration

Waste and Residual Disposal: Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Bury residue in an authorised landfill. Recycle containers if possible, or dispose of in an authorised landfill.

Section 13: Transport Information

Special transport: Not regulated for transport of dangerous goods UN, IATA, IMDG

Section 14: Regulatory Information



Health hazardous: Irritating to eyes and respiratory system

Dangerous substance to label:None

Section 15:Other Information

The information contained herein is based on our knowledge of the date indicated. It refers solely to the product indicated and constitutes no guarantee of particular quality. The user is required to verify the suitability and completeness of such information in relation to the specific use intended.

ANNEX:

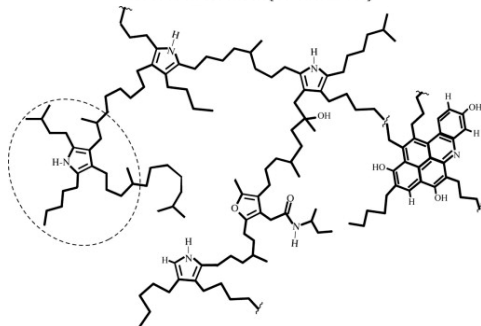
GILSONITE is an Organic matter; a hydrocarbon consisting of Carbon and volatile gases like Methane. With very special characteristics defining it as Bituminous matter. These characteristics are very similar to those, which are synthetically produced in the refineries.

This chemistry, which defines this bitumen without its volatile gases, is nothing but something similar to a Coal. Then “the higher the volatile matter Ratio to Carbone the closer it is to synthetic Bitumen”.

In the laboratory the test procedure is defined to quantify these matters. We slowly apply heat to GILSONITE to initially reach to its softening points 170-220 degrees C . The heat is applied further at a constant rate in order to reach the temperature of 350 degrees C at which the volatile gases are fully evaporated. At this stage we reach a point referred to as FIXED CARBONE.

The Temperature is still increased beyond 350 degrees C at a constant rate until all Fixed Carbone is disintegrated fully at temperatures above 800 degrees C. The specimen is kept at this temperature for a while and then cooled off. The remaining balance is then analyzed and measured.

The balance is collectively referred to “ASH” which, are basically Ferrous Silicide: $FeSi_2$, Calcium Carbonate: $CaCO_3$, SO_2 , MgO , Al_2O_3 and SiO_2



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You will also be provided with contact information on every other division and personal specialists for better interaction and services.

Best Regards

JAHAN ARTA NBT