

Ultra high purity "liquid hydrogen"
transportable/storable in bulk

Liquid Hydrogen

Features

- Space-saving installation (7 m x 10 m)
- Bulk storage (32,000 Sm³), bulk transportation (20,000 Sm³)
- Ultra high purity (99.9999% min.)

Overview

(Technical principles, actions, etc.)

The Iwatani Group has around 60 years of experience in the hydrogen business, and is a pioneer in the development of different hydrogen supply systems that meet diversified needs.

The group is also a pioneer in the hydrogen energy business, and aims to deploy around 20 hydrogen fuel stations for fuel cell vehicles by 2015. Liquid hydrogen, our one and only product, allows bulk storage of the fuel and is very suitable for hydrogen fuel stations in an era of mass consumption. Presently, most of the hydrogen fuel stored at domestic hydrogen fuel stations is in the form of compressed hydrogen. We are planning to deploy more stations storing liquid hydrogen in the future.

After commercial operation of Hydroedge Co., Ltd. (Sakai city, Osaka prefecture), a liquid hydrogen manufacturing plant, was launched in 2006, additional plants were established in Ichihara city, Chiba prefecture and in Shunan city, Yamaguchi prefecture. These three manufacturing bases constitute a liquid hydrogen distribution network in Japan for the stable supply of hydrogen in a hydrogen energy society.

Features of liquid hydrogen

- 1) Bulk-transportable, bulk-storable
- 2) Ultra high purity
- 3) Space-saving installation

Bulk transportation and storage ensure an absolutely stable supply of hydrogen.

Our 24-hour liquid level monitoring system and security services are also key areas of focus for ensuring security and safety.

A conceptual image of liquid hydrogen supply



Introductory Track Record

- Track record: Introduced at more than 60 companies
(Liquid hydrogen is used in electronics, solar cells and other businesses.)

Effects

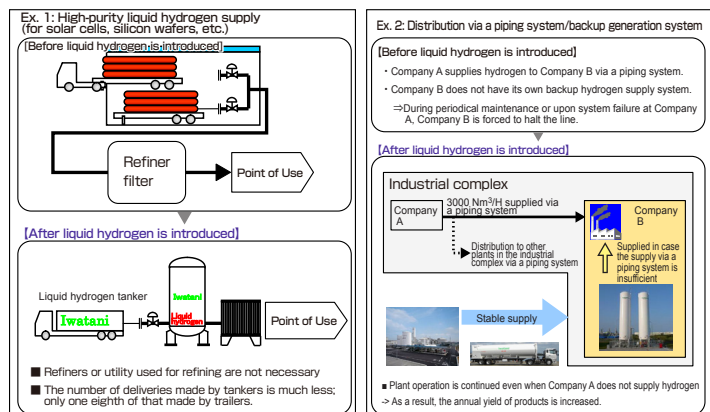
Effects of introducing liquid hydrogen

Example: A customer supplied with 100,000 Sm³/month of hydrogen using compressed hydrogen tube trailers

	Liquid hydrogen	No electrical systems used
Delivered amount	Approx. 20,000 Sm ³	Approx. 2,500 Sm ³
Number of deliveries made	Approx. 5 deliveries/month	Approx. 40 deliveries/month
Storage capacity	Approx. 32,000 Sm ³ (Equivalent to approx. 12 compressed hydrogen tube trailers)	Approx. 7,500 Sm ³ (3 compressed hydrogen tube trailers operating on site)
Installation area	7 m x 10 m (70 m ²)	14 m x 14 m (196m ²)
Purity	99.9999% min.	99.99% min



Examples of introduction of liquid hydrogen



Applicable field
Semiconductor/liquid crystal/solar cell/LED glass
oil and fuel/quantum/vehicle fuel/space development, etc.

Water

Energy saving/Energy recovery

Energy storage/Energy creation

New energy

Waste disposal/
Recycling/
Resource saving

Air

Soil

Other

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