

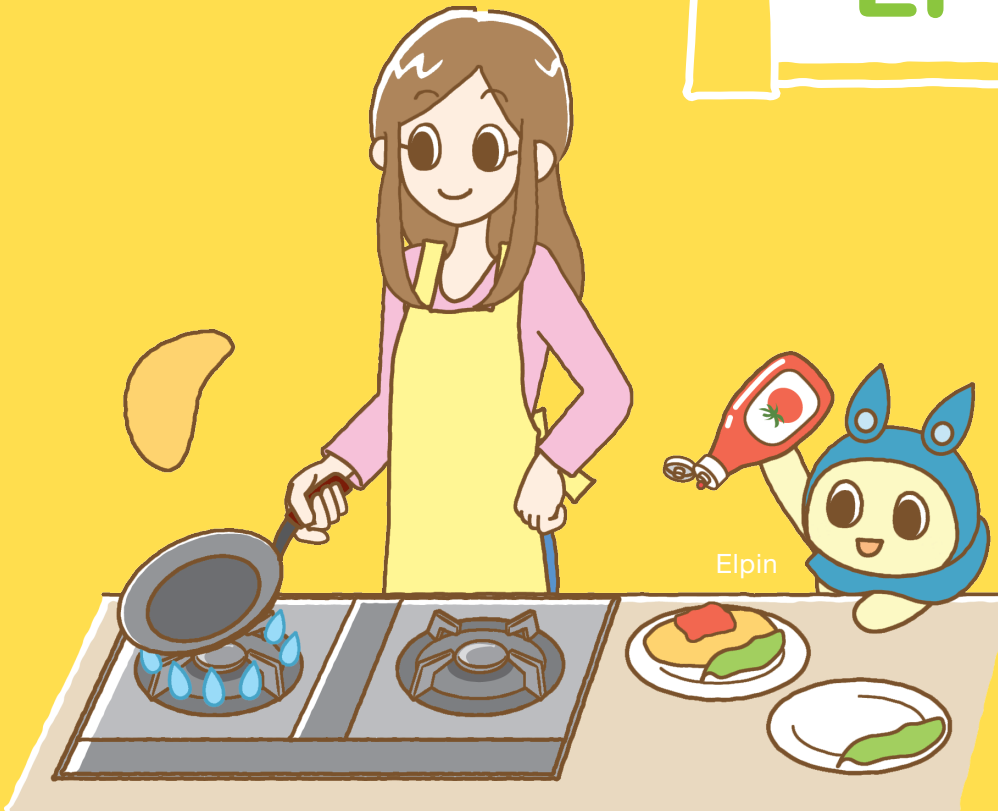
Things You Don't Know
About Familiar Gas

Community Gas

Preservation Edition

Please be sure to read this pamphlet.

Proper Usage of LP Gas



For safety
in life
with gas

Let's Study Properties of LP Gas for Safety & Comfort Every Day



Denser than air

LP gas has a tendency to sink below and behind some objects because it is denser than air.

An odorant is added so that people can easily notice abnormality

LP gas itself has no color no odor, but an odor like rotten onions is added so that people will notice in case of gas leak.

I see!
Safe because
of the odor



Combustion requires a large quantity of air

Air required for complete combustion of LP gas is 30 times more than the amount of gas.

- If incomplete combustion occurs due to poor air circulation etc., carbon monoxide (CO) is formed.
- When people inhale large amounts of LP gas, they may lose consciousness or be suffocated due to insufficient oxygen.



LP gas is clean gas

LP gas is ranked as clean energy. It is friendly to the environment because its emission of greenhouse gases such as CO₂ (carbon dioxide), SO_x (sulfur oxide) that cause air pollution and acid rain, and NO_x (nitrogen oxide) is less than that of oil or coal.



Be careful of these things



Use special appliances for LP gas

The gas we supply is **LP gas (propane gas)**. Check marks like the following that indicate LP gas appliances.



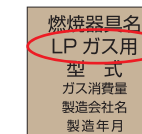
National certification mark



Self-inspection mark



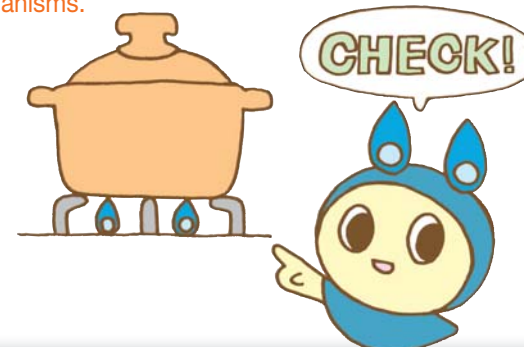
Manufacture's plate



- LP gas appliances are common in Japan.
- Read instruction manuals of gas appliances for correct use, and store warranties in a safe place.
- City gas appliances are not compatible.

Always check ignition visually

- Do not place any inflammable objects near gas appliances.
 - Flames may extinguish unintentionally due to the wind or boiling over of water, or oil in a fryer may catch fire while deep frying. Do not leave the stove unattended.
 - For an appliance that ignites with a match, open the appliance valve after ignition.
- * We recommend upgrade to stoves with safety mechanisms such as flame failure and cooking oil overheat prevention mechanisms.



Always use with blue flames

- Make sure that flames of gas are "blue". Reddish flames indicate incomplete combustion.



Clean gas appliances periodically

- Clogged gas stoves cause incomplete combustion. Clean appliances with a tool like a brush periodically.



Request!

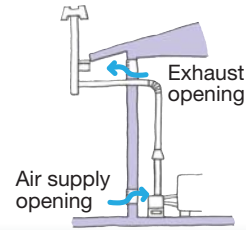
If you need to remove parts such as screws from gas appliances while cleaning, please always contact a NICHIGAS sales office.

Precautions



Gas water boilers and bathtub water heaters require air supply and exhaust equipment

- To burn gas safely, sufficient air must be supplied. Make sure that air supply and exhaust equipment are correctly installed.



Is my house OK?



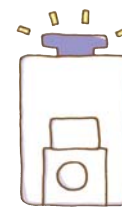
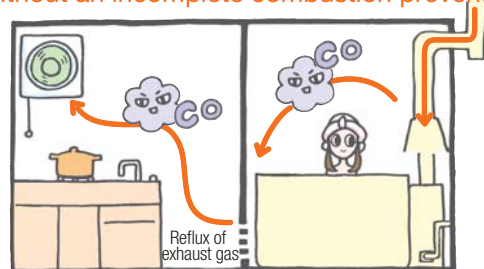
Make sure to ventilate the room



- When using a gas appliance in a room, make sure to turn on the ventilation fan or open windows periodically to sufficiently ventilate the room.
- Do not use a small-size water boiler for a prolonged time.
- * Do not supply hot water to a bathtub using a small-size water boiler.
- * LP gas requires a large quantity of air to burn. Insufficient ventilation is very dangerous because it causes incomplete combustion due to lack of oxygen or a room full of exhaust gas, causing toxic carbon monoxide (CO).

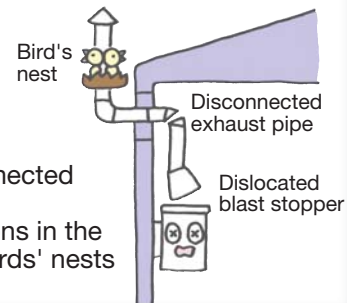
Incomplete combustion of gas appliances results in hazardous carbon monoxide (CO)

- Do not use a bathtub water heater and ventilation fan at the same time in an airtight house. It causes reflux of exhaust gas.
- * We recommend upgrade to an outdoor installation type bathtub water heater with water heater function.
- * We recommend replacement of a small-size water boiler without an incomplete combustion prevention function.



- Is the fin part clogged with dust or oil? It will result in incomplete combustion.

- Is the exhaust pipe connected properly?
- Are there any obstructions in the exhaust duct such as birds' nests that prevent ventilation?



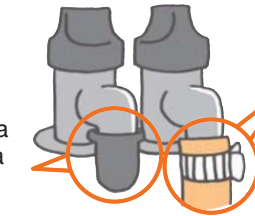
Be careful



Fully open the gas lever during use, and close completely after use

- Make sure that the gas levers and appliance valves are closed before going to sleep or going out.
- If you will be away for a long period of time, close the meter gas valve and contact a NICHIGAS sales office.
- Do not use a gas pipe or gas lever as a substitute for a grounding wire.
- * We recommend use of a fuse gas lever.

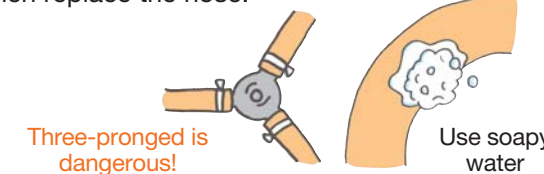
Always attach a rubber cap to a gas lever when not used.



Insert a rubber hose completely up to the red line of a gas lever, and fasten with a hose clamp.

Check the rubber hose occasionally and replace immediately if it appears likely to leak

- Do not lengthen a rubber hose, install it from behind an object, or bend it.
- Do not use rubber hoses in three-pronged formation because it is dangerous.
- To check a gas leak from a rubber hose, apply soapy water to see if bubbles come out. If bubbles come out, then replace the hose.



Use of socket-type dedicated hose is recommended

- We recommend a socket-type dedicated hose that is easy and secure when attaching and removing.
- For prevention of gas leak, use of a rubber hose for connecting between a water boiler or bathtub water heater and a gas lever is prohibited. For the connection, use direct thread connection, or a dedicated hose for thread connection as shown below.



Carbon monoxide poisoning is dangerous!

- Carbon monoxide is a gas hard to detect because it has no color or smell, but it is highly poisonous.
- Mild poisoning symptoms are similar to a cold. If you start having headache, nausea or sickness, stop using gas appliances immediately.
- You may not be able to move your arms and legs due to numbness.
- In severe cases, the brain's nerve cells may be damaged, or may result in unconsciousness or death.

Underground gas pipes also have lifetime

Corrosion of underground white gas pipes (galvanized pipes) occurs over the course of time and, although it varies depending on the underground environment, a rough estimate for the replacement is about "20 years" after burying.

White gas pipe before burying



Corrosion state (example)



Corrosion resistant gas pipe developed by advancement of technology (example)



[Polyethylene pipe] Used for underground piping. It does not erode.

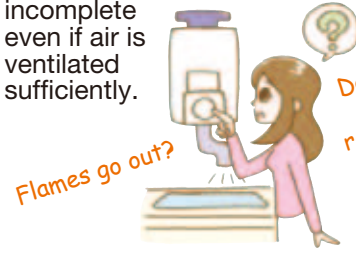


[Unplasticized polyvinyl chloride coated steel pipe] Used for exposed or underground piping. Resistant to corrosion.

Repeated ignition of an indoor-type gas on-demand water heater is dangerous



When flames extinguish unintentionally during use, combustion might be incomplete even if air is ventilated sufficiently.

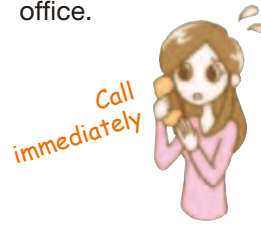


If flames extinguish during use, do not try ignition repeatedly.

Do not try ignition repeatedly!



Immediately stop use, and contact the point of purchase or a NICHIGAS sales office.



When the following phenomena occur, continued use of a gas on-demand water heater may result in carbon monoxide poisoning due to incomplete combustion and is very dangerous. Stop use immediately.

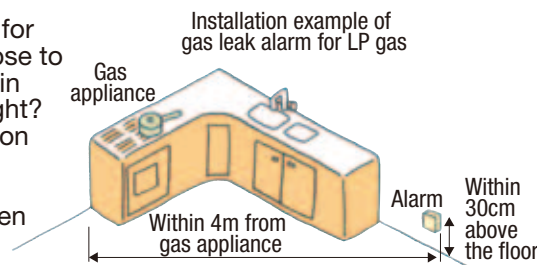
- Flames extinguish during use (safety mechanism may be activated)
- The coating of the front plate is discolored black with soot
- Other phenomena such as unpleasant odor during use, excess flames, overheating of the unit itself.

Correctly set and use a gas leak alarm



Make sure that an alarm is installed at an appropriate position

Is a gas leak alarm for LP gas installed close to the floor as shown in the figure on the right? Check the installation site of the alarm because it will not detect gas leak when installed in the wrong location.



Make sure that the alarm has not reached the time for replacement

Alarms need to be replaced every 5 years. Check whether your alarm has not reached the time for replacement, and contact a NICHIGAS sales office before expiration.



Alarm approved in 2012
* Time for replacement is indicated with a 4 digit number in the Western calendar. The label varies in shape, size and color for each manufacturer.

Expiry year 2017

Do not place any objects around an alarm

It is difficult to detect a gas leak when an alarm is surrounded by objects. Do not place any objects around an alarm.



Do not place any objects around an alarm!

Make sure that the power plug of the alarm is always plugged in the outlet

There have been cases where an unplugged alarm delayed detection of a gas leak or exacerbated the accident although the alarm had been installed. Make sure to keep the power plug of an alarm in the outlet because it cannot be activated unless it is powered.

Do not unplug the power plug of an alarm!



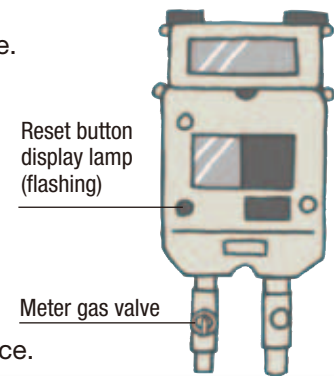
The role of a microcomputer meter



Built-in computer monitors gas usage 24 hours a day

If a microcomputer meter shut off gas, there might be a gas leak. Make sure that there is no gas smell. If you smell gas, contact a NICHIGAS sales office.

- Normally, keep the meter gas valve open. If there is any abnormality such as a gas leak, however, make sure to close the gas valve.
- Periodically check that the red lamp is not flashing.
*Sometimes the red lamp is not flashing because the batteries of the microcomputer meter are out.
- If there is abnormality in gas flow or pressure, or if there is an earthquake equivalent to intensity 5, the built-in computer finds them dangerous and will shut off gas or display an alert.
- There might be a gas leak if the red lamp is flashing. Contact a NICHIGAS sales office.



Microcomputer meters shut off gas in the following cases:

Earthquake

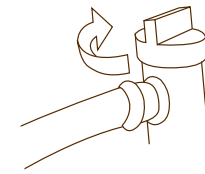
Forgot to turn off gas appliances

Large quantity of gas leak

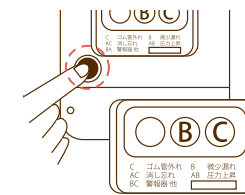
Prolonged use of appliances

Reset the microcomputer meters when gas was shut off with the following procedure:

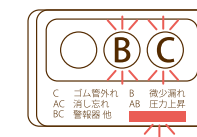
1 Close all gas levers and appliance valves.



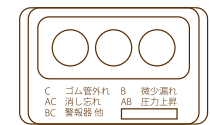
2 Press the button on the left to make the letters "Gas shutoff" disappear.



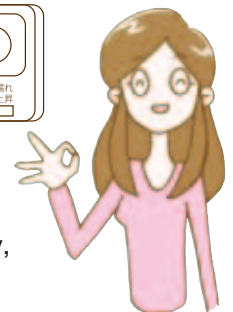
3 When the letters on the liquid crystal panel and the lamp start flashing, wait for 1 minute.



4 Resetting is complete when the letters on the liquid crystal panel and the lamp are turned off.



The microcomputer checks whether there is any gas leak for 1 minute. If there is no abnormality, you can use gas again. If you cannot use gas, contact a NICHIGAS sales office.



For houses with a bathtub water heater

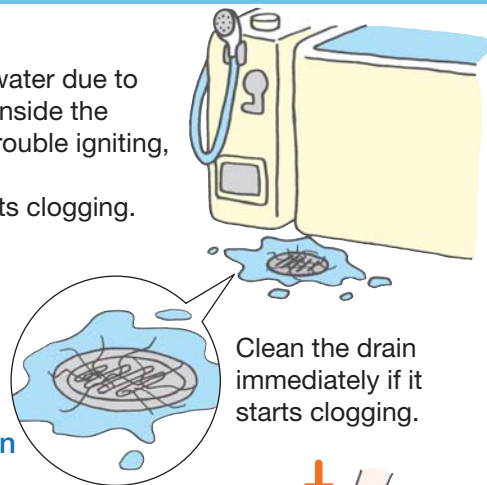


For safe use of a bathtub water heater installed inside the bathroom

● Be careful of a clogged drain

When the bathtub is submerged in water due to the clogged drain, water may enter inside the appliance, causing excess flames, trouble igniting, failure or fire.
Clean the drain immediately if it starts clogging.

Pay special attention to clogging when emptying the bathtub, or discharging water from a washing machine.



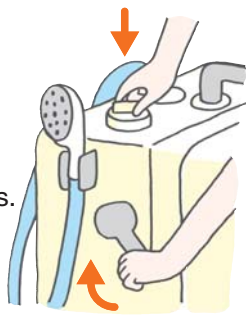
Clean the drain immediately if it starts clogging.

● Be careful of abnormal ignition

Ignition operation

If you cannot get a pilot flame unless you repeat the ignition operation several times, then raw gas will accumulate inside the appliance and explosion ignition will occur, causing damage (deformation) and a loud explosion sound, which is very dangerous.

If it becomes hard to ignite, request inspection and repair from the point of purchase or a NICHIGAS sales office.

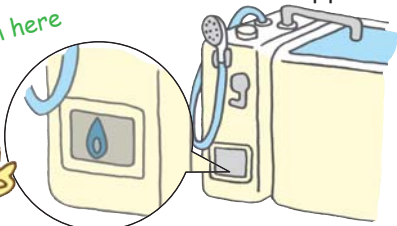


Ignition operation

For shower and reheating

Check that the pilot flame is on from the inspection window. Sometimes the pilot flame is turned off when you return the knob too much after using the shower or reheating. If the appliance does not ignite within 3 seconds after you turned on reheating etc. again, raw gas will come out inside the appliance, making subsequent ignition operations very dangerous.

If the appliance does not ignite, turn the knob to the extinguish (off) position, and wait for 5 minutes to discharge raw gas.



For customers using forced ventilation type gas appliances



For customers who have a chimney without incomplete combustion prevention mechanism and are using a bathtub water heater or water boiler with ventilation fan

Is the chimney perforated and/or disconnected?
* Make sure that the chimney is also fastened firmly with fixing brackets.

Is the air supply opening clogged?

Does the fan rotate when using hot water?

Is the power plug plugged into the outlet?

Is the chimney perforated and/or disconnected?
* Make sure that the chimney is also fastened firmly with fixing brackets.

Is the metal at the tip of the chimney eroded or clogged with foreign objects such as bird nests?

Is the power plug plugged into the outlet?

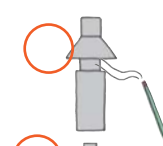
Is the solenoid valve for shutting off gas in case of emergency fastened with a string or the like in order to prevent activation?
(Do not fasten the solenoid valve because it is very dangerous.)

Is the air supply opening blocked?

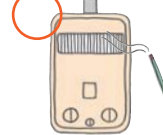
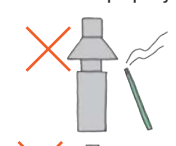
How to check for overflow of exhaust gas

Is ventilation performed properly?
* Check ventilation periodically with smoke of incense etc. during use.

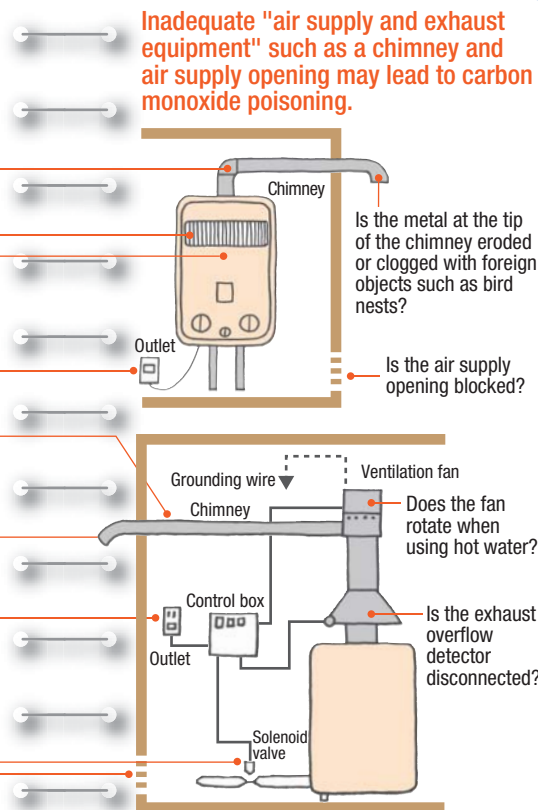
Normal ventilation



Not vented properly

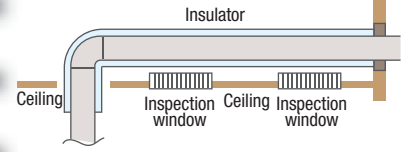


Inadequate "air supply and exhaust equipment" such as a chimney and air supply opening may lead to carbon monoxide poisoning.



There have been accidents related to chimneys hidden in the ceiling

[Occluded space inside the house]



Check for disconnection of the chimney, or perforation or stain on the insulator around the chimney.
If you found abnormality or could not check, contact a NICHIGAS sales office.

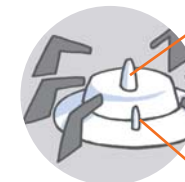
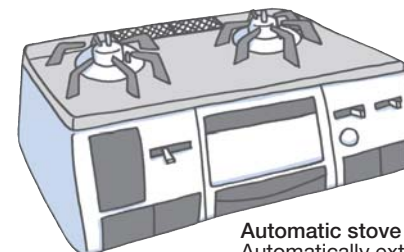
We recommend safety equipment for security



Safety Support Smile intelligent

Si sensor stove

Every hob of a Si sensor stove is equipped with a safety sensor.

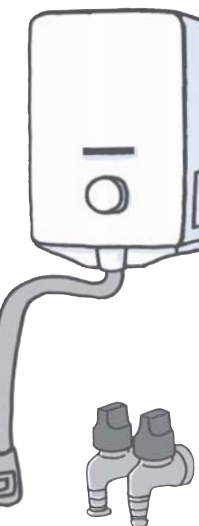


Cooking oil overheat prevention mechanism
The temperature sensor detects the temperature of the bottom of a pan, and extinguishes flames automatically when it reaches about 250 degrees C to prevent ignition of oil.

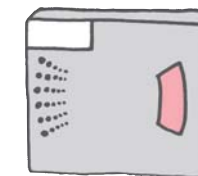
Automatic stove (grill) shut off function
Automatically extinguishes flames even if a stove (grill) has been forgotten to be turned off when a certain time elapses after ignition.

Flame failure mechanism
Automatically shuts off gas when flames extinguish unintentionally by boiling over of water or strong wind etc.

Small-size water boiler with an incomplete combustion prevention function

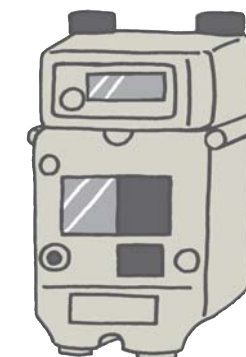


Shuts off gas when incomplete combustion occurs due to inadequate ventilation or clogged appliances.



Gas leak alarm

Detects gas leak immediately and alerts with a buzzer or sound.



Microcomputer meter

If there is abnormal gas flow such as gas leak, the built-in microcomputer inside microcomputer meter and shutoff valve are activated to shut off gas. It is also equipped with a security function that shuts off gas in case of a major earthquake (equivalent to intensity 5).

Fuse gas lever

Automatically shuts off gas when large quantity of gas flows out due to disconnected rubber hose etc.

CO (carbon monoxide) alarm

Detects CO (carbon monoxide) generated due to incomplete combustion, and alerts with a buzzer or sound.

If there is a gas leak



Extinguish all flames in the room, and do not strike a match or smoke.



Do not touch any outlet or switch.



* Do not turn on the ventilation fan. If the ventilation fan has been on, then keep it on.



Open the door and windows fully to vent gas outside.



Close gas levers and appliance valves.



Contact a NICHIGAS sales office, and do not use gas until inspection is conducted.



Long-term Use Consumer Product Safety Inspection System

[started from April 1, 2009]

When products get older, parts will be degraded (aging degradation), and may result in unanticipated accidents. In the "Long-term Use Consumer Product Safety Inspection System", you can receive inspection notification at an appropriate time and receive inspection, by making owner registration with a manufacturer etc. Owner registration is required when you purchase the products listed below.

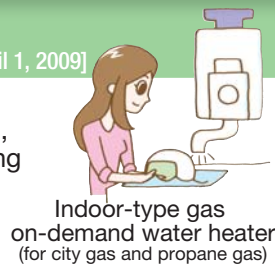
*This system was established under an amendment to Consumer Products Safety Act.

Products subject to the system (Specified maintenance products)

Products manufactured or imported after April 1, 2009

- Indoor-type gas on-demand water heaters (for LP gas/for city gas)
- *Indoor-type hot-water supply and heating units are included since July 1, 2011.
- Indoor-type gas bathtub water heaters (for LP gas/for city gas)
- Oil water heaters
- Oil bathtub water heaters
- FF-type oil hot air heating units
- Built-in electric dishwashers
- Bathroom electric dryers

Since inspection of products manufactured or imported before April 1, 2009 is also possible, contact manufacturers for details.



Indoor-type gas on-demand water heater (for city gas and propane gas)



Indoor-type bathtub water heater (for city gas and propane gas)

Precautions for times of disaster

● In case of fire...

Close the meter gas valve, report to the fire department and a NICHIGAS sales office, and request fire department officials for handling.

● If there is an earthquake...

First ensure your safety. When the shaking has stopped, turn off gas appliances. Microcomputer meters automatically shut off gas if there is an intensity 5 or stronger earthquake. Do not panic, but act calmly.



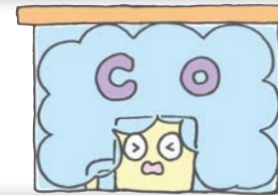
Turn off gas appliances, and unplug the cords of electric appliances from the outlet. Do not go near gas appliances while shaking hard during an earthquake because it is dangerous.

● In case of evacuation...

Close valves of gas appliances and gas levers, and cooperate with neighbors. Help senior citizens and injured people.

Extension and reconstruction

It is very dangerous to use an outdoor water heater or bathtub water heater inside the house or to surround it with corrugated panels for extension and reconstruction. Inadequate fresh air will lead to poisoning accidents due to incomplete combustion or failure of the gas appliance.



Make sure to contact us when you plan construction

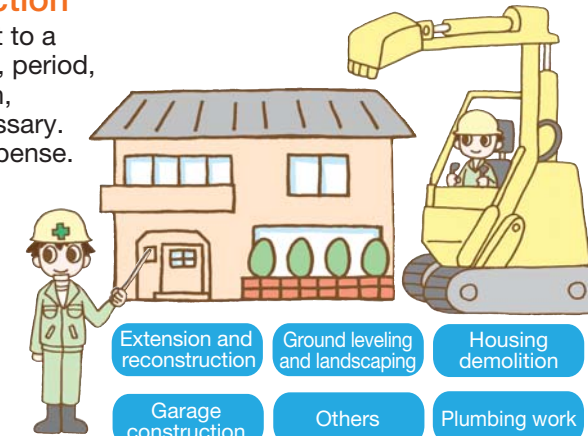
To avoid damaging "gas pipes" that bring comfortable life, report to a NICHIGAS sales office about the outline of construction (method, period, time schedule) in advance. We will be present at the construction, indicate the positioning of piping, and protect gas pipes as necessary. *Protection and relocation of gas pipes are performed at your expense.

● Construction may cause a gas leak...

Fence-raising, backfill and other construction work sometimes damage underground gas pipes, or excess weight may break gas pipes. Gas leaks will cause your neighbors great trouble and inconvenience.

● If you let us know...

If you have not reported about construction to us in advance, we will immediately check construction details, provide presence on the site, indication of piping positioning, or gas pipe protection as necessary to ensure safety.



Extension and reconstruction

Ground leveling and landscaping

Housing demolition

Garage construction

Others

Plumbing work

Gas piping equipment* on customer's premises is an important property of the customer

*Except for gas meters for reading

Gas meters are properties of gas suppliers (except for sub-meters)

Gas meters are replaced at expiry of approval (7 or 10 years) pursuant to the Measurement Act.

Main and branch gas pipes are properties of gas suppliers

Gas facilities on customer's premises are the properties of the customer

Public-private boundaries (roads)

Reliable service system

We deliver reliable and comfortable life to people in our region

NICHIGAS has received a high evaluation and support from many customers as we have earned trust for our detailed support and have cultivated specialization and performance for a long time. We will continue to protect the safety of lives of our customers, and develop together with the local community.

Our employees observe safety 24 hours a day 365 days a year

Respond promptly with the network spread throughout the Kanto region

For safe use of gas, NICHIGAS has organized a 24 hour 365 days emergency dispatch system to prepare for trouble. If we receive a report from a customer, we will immediately check the situation of the site. If special response is necessary, we will dispatch employees promptly from the nearest sales office to take security measures.



We will also provide repair and inspection Our employees support reliable gas life

We inspect customers' gas facilities and gas appliances periodically in compliance with various laws. We also respond to problems and failures that occur unexpectedly, and repair 24 hours a day.

- Hot water does not come out
- Smell gas
- Nothing shows on the remote control
- Cannot ignite a stove etc.



Set up a safety system to protect customers from earthquakes and other disasters

We protect the safety of customers with prompt and secure response

We promote regular emergency drills and technology acquisition in order to take proper measures at the time of emergency or disaster. We conduct thorough safety management and safety training inside our company.

We attach a sticker saying "on security patrol" to our vehicles, and patrol mainly in our supply area. We will further increase the number of vehicles and continue our activities in the future to develop a town where people can live in peace.



Mobile terminals are used for meter reading, security service, and delivery

NICHIGAS utilizes an originally developed application for security inspection and meter reading of customers' gas facilities and consumption facilities. We operate with a mobile system that employs smartphones. This system has generated various advantages such as efficient operation, improved handling capability, reduction of paper use for slips, etc. and reduction of postage fees.

[Note] Our employees will sometimes use a smartphone at a customer's house for input in the above-mentioned system, not for using mail service or the Internet. We appreciate your understanding.

Patent pending



It is NICHIGAS's original system! That's advanced



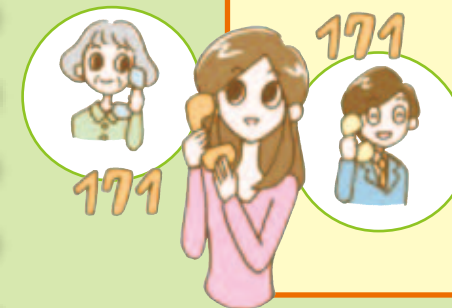
Emergency Messaging Service

171

Information on "Emergency Messaging Service" of NTT East Japan available for safety confirmation at the time of disaster

Emergency Messaging Service is a "voice message board" available only at the time of disaster. This service is helpful for safety confirmation because it can be used even if your call cannot get through. You can use this service from home phones, public phones, or mobile phones.

[Note] Everyone who knows your phone number can hear recorded messages. If you want to record a message for only certain people, you need to set a password in advance.



Recording method

1 7 1 ▶ 1 ▶ × × × - × × × - × × × ×

Guidance will play Guidance will play Enter your home phone number from the area code

Playback method

1 7 1 ▶ 2 ▶ × × × - × × × - × × × ×

Guidance will play Guidance will play Enter your home phone number from the area code

Be careful of inspection or visit fraud!!

Egregious door-to-door sales and inspection service for gas leak alarm etc. have been reported. If you feel suspicious, do not sign any paper or pay money, but contact the nearest NICHIGAS sales office.

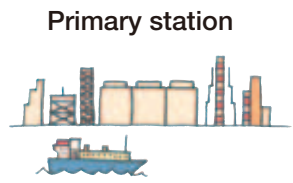
Reduce costs by streamlining

Quick and efficient delivery

For reducing costs, NICHIGAS is constantly making efforts to establish efficient systems for construction, maintenance, and logistics systems including LP gas stations, plants and vehicle management, in addition to the mobile system that employs smartphones for security inspection and meter reading of gas facilities and consumption facilities.

24 hour hub station scheme that employs depots to practice logistics reform

For infrastructure development in the future, NICHIGAS is promoting reforms in various areas including streamlining of the delivery system. In June and July, 2010, Chiba Gas Terminal and Saitama Gas Terminal were opened as the core hub stations in the logistics scheme aiming for unification of logistics from raw procurement to sales. In addition to the conventional functions such as filling plants, these terminals are equipped with functions for achieving delivery cost reduction in the future, supporting a wide range of usage such as operation as depot stations that use large trailers. Please look forward to NICHIGAS's logistics reform in the future.



Primary station

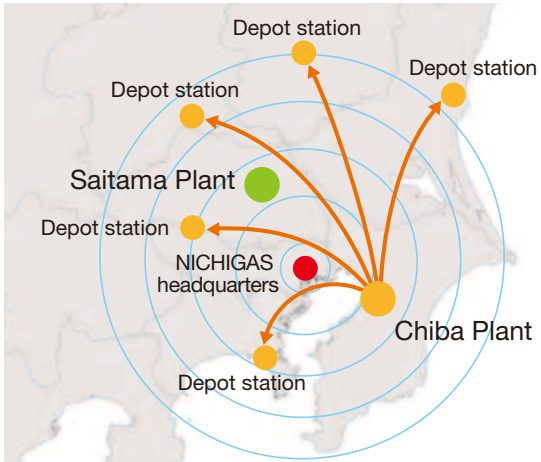
Hub station and Terminal plant



<Chiba Plant>



<Large trailer>



Reliable!



Customer

Depot station <10 stations in Kanto>



<24-hour system>



Together with the people in our region

NICHIGAS lives together with the people in our region

NICHIGAS contributes to our region by providing new energy services to our customers by making efforts for advanced and high quality operation of energy, crossing the barriers of city gas, LPG, oil, and electricity.

Responding to the needs of our customers in each region by regional decentralization and personnel development

To respond to our customers promptly, NICHIGAS Group is expanding business according to the characteristics of each region by each company and each base. Furthermore, we actively promote on-site education and training as well as acquisition of various licenses for developing human resources to serve our customers. We support our customers steadily by prompt response that meets the needs of each region and improvement of the level of our employees.

Contributing to the environment

NICHIGAS markets fuel cells for home use called "ENE-FARM" in addition to home-use energy saving products such as ECO-JOZU. We have also developed low cost and space-saving self-serve gas stations called "Ecosta" in order to promote dissemination of environment-friendly LPG vehicles. The number of installation sites of Ecosta has been increasing, and currently total 33 stations are installed in Tokyo Metropolitan and 7 prefectures.

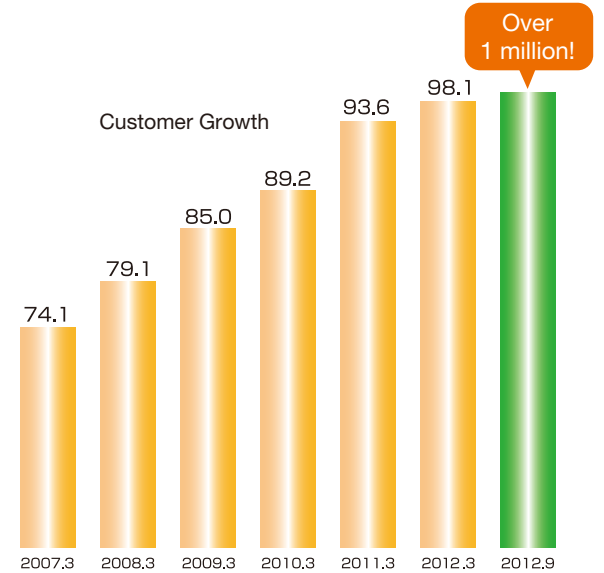


Self-serve gas stations "Ecosta"

Taking all possible measures to ensure security

Since security means not only safety inspections, but it also intricately links with all tasks including delivery, meter reading, bill collection, construction and sales, it is important to ensure security throughout the entire business. For that purpose, NICHIGAS has been investing in personnel development, and secures licensed personnel such as chief gas engineers. We also developed a security inspection system that utilizes mobile phones so that we can streamline security tasks and promptly ensure security at the time of disaster.

We've passed 1 million customers! Thank you for your continued support.



Contact NICHIGAS when...



- Newly constructing LP gas facilities, installing a new appliance or removing an appliance.
 - You start using a new appliance or quit using an appliance because of a new house, renovation, or moving out.
 - You have construction not related to gas (such as water supply works).
 - You are having difficulty installing or removing seasonal appliances such as a heater.
- *Constructions on piping, bathtub water heater, large water boiler, and chimney require legal licenses.
*Some bathtub water heaters and water boilers require an air supply opening or exhaust equipment.

October 2012