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Autogas on a High Drive!

The population of automobiles is growing at a fast pace in our country. With its rapid growth, our roads are being dominated by vehicles fitted

with petrol and diesel engines and therefore, concerns about air pollution continue to be very high. Today more and more automobile

manufacturers in India and worldwide are coming up with LPG variants of three and four wheeler vehicles with benefit of improved fuel economy and superior performance. Two-wheelers that can run on Autogas (LPG) are also likely to be launched soon on Indian roads. State Governments wary of rising pollution levels are focusing on converting existing public transport vehicles into environment friendly vehicles. It is clear that Autogas (LPG) is fast gaining wide acceptance in our country as a safe, cost effective, environment friendly and clean energy alternative.

India today has close to 300 Autogas Stations with cities like Bangalore, Hyderabad, Mumbai and Chennai taking the lead and the numbers are rising. Super Gas too has joined the green bandwagon and is setting-up state of the art Autogas Stations branded as 'Super Gas Hi drive' in many States; the first few of them have already started operating in the States of Gujarat and Andhra Pradesh.



Contd ...pg 2

From the editor's desk.....



The growing awareness of both consumers and governments on environmental issues, including effects on health due to emissions in big cities and climate change, has been a good catalyst for the growth of Autogas. The high price of Oil has further influenced the perception of automobile manufacturers and users alike. Realizing the benefits of autogas as a fuel, Super Gas has also forayed into this segment and set up first of its many Auto Gas Stations under the brand name 'Hi Drive'

Our revamped website www.supergas.com was launched in July this year. The chapter on Safety provides a good advisory on the proper usage of LPG in gas installation systems and gives important safety tips for the consumer

Starting with this edition each issue of Chetna will become a channel for talking about the technical and safety aspects of one industrial application using LPG as a fuel. Powder coating is by far the youngest of the surface finishing techniques in common use today. This edition discusses the process in brief

We strongly believe that our valued customers, Vendors and Franchisees are also stake holders in the process of safety. Our transporters have shown great enthusiasm towards managing safety on the road. By gainfully using the vehicle tracking system and closely monitoring and controlling safety, the transportation related accidents have shown a declining trend. We are greatly encouraged and thank everyone involved on this achievement and would like to take this forward on our drive of achieving zero accidents

In dealing with Safety, we are committed to use a blend of awareness programs and good safety codes of practices. Let us integrate Safety into our process and make it a business order. The festive season is on. Wish you all a safe and Happy Diwali!

Cdr A S Oberoi

Safety Seminar at Durgapur

Super Gas conducted a Seminar on LPG Safety on 21st of September 2007 at Durgapur Club. Mr Koshy John Business Head and Somnath Bhattacharya, Business Development Manager Sales, made presentations on safety management and discussed the safe use of LPG in commercial application. In addition to dignitaries from the Police and Controller of Explosives Department, the program was attended by more than 40 customers, franchisees, and press reporters from in and around Durgapur area.

The spirit and importance of such a program was well acknowledged by Mr. A.P. Singh, Controller of Explosives and Mr. SNL Bhatnagar DIG Police and their support assured for organizing such programs in near future. The program was highly appreciated and well publicized through print media in 'Anandabazar',

'Sunmarg', 'Dainik Jagaran' and 'E - media 'Express News', 'Hello India', 'Aj Khabar', DD Bangla and Star News.

Somnath Bhattacharya
Kolkata

Help from Super Gas in an Emergency!

We are a well known organization dealing in the manufacture of Ayurvedic medicines. We are extremely thankful to the Manager and staff of Super Gas LPG Plant at Pune, for their invaluable help in time of an emergency at our unit. An electric short circuit resulted in a fire at our unit. Due to the timely help from Super Gas we could greatly reduce the damage to our premises, equipment and of course fully avoid injury to our staff. Thank you once again Super Gas

Dr. Borgaonker
Manager

Shree Dhanvantari Pharmaceuticals

Autogas on a High Drive!

Contd ...from 1

LPG as an automotive fuel provides value not only to the environment but also to customers and the industry alike. It is important though to go to only approved vendors and retrofitters when changing over to LPG as a fuel. In addition to being cost effective i.e. offering up to 40% saving in fuel cost over petrol, there are many benefits of changeover to autogas vehicles. With autogas:

- Air quality is improved with virtually no particulate emission and substantially lower CO₂ emissions, which is the major green house gas.
- Engine wear is reduced.
- Retrofitting of vehicles is easy and quick.
- LPG is abundantly available and its supply is supplemented with the existing infrastructure.
- Technology has evolved over the past 30 years and autogas has proven to be efficient and reliable over an extended period of time.
- LPG is easy to refuel, store and is very portable. Whilst an Autogas vehicle is completely autonomous, back-up petrol tank is possible.
- Many variants for various capacity and types of vehicles are available

In conclusion the hard truth is that LPG as a



fuel has a great future in the autogas industry and change over to LPG and clean fuel vehicles will soon become an environmental necessity. There is no better way of investing in the future; improve air quality, combat climate change and of course save money. Why not join the club and convert to Autogas!

Cdr A S Oberoi
Hyderabad

Powder Coating Process – The LPG advantage

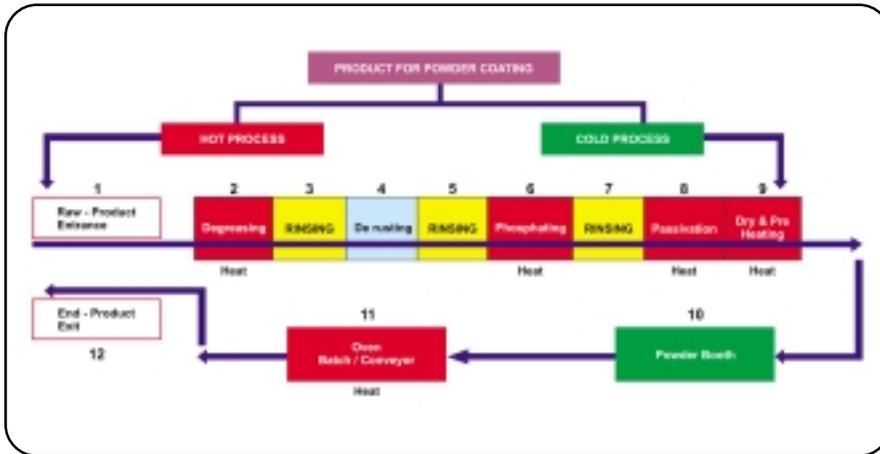
Over the past decade powder coating has been increasingly accepted as the preferred finishing

c) Overall cost effective alternative to liquid paints considering durability of coating.

c) **Lower Maintenance Bills:** LPG combustion system significantly reduces the maintenance bill due to the absence of any pumping unit, otherwise required for Liquid fuel firing in Powder Coating Ovens.

d) **Consistency of Energy Consumption:** This is a direct benefit possible due to absence of adulteration, pilferage and handling losses which are variable and an integral fraction in case of liquid fired combustion systems.

e) **Extended Life of Oven and Burners:** Liquid Fuel consists of higher sulphur content and the combustion gases so generated lead to corrosion and thereby reducing the overall life of equipment and oven.



Powder Coating Process

process. Powder coating is a complete dry finishing technique used on thousands of consumer and industrial goods. The automotive and maritime industries, appliance makers, architects, and builders all rely on powder coating for its decorative and protective properties.

Powder coating is a dry coating process. Instead of being dissolved or suspended in a liquid medium, such as solvent or water, powder is applied in a granular form. This material is finer than ground pepper but coarser than flour, and is applied directly to the surface to be coated.

Advantages of Powder Coating over conventional Paints.

- a) Much superior consistency and uniformity of finish without sags, drips, runs, or bubbles.
- b) Better impact resistance, flexibility, and corrosion resistance.



Powder coating

d) Solvents in liquid paints and sludge generated from liquid painting booths are hazardous waste and require disposal as per PCB norms. Powder coatings are free of such pollutants.



Baking

Benefits of LPG Firing vis-à-vis Liquid Fuel firing

- a) **Lower Energy Bills:** LPG Fired Oven entails direct firing as compared to indirect heating system for liquid fuels, thereby resulting in upto 40% fuel savings. This is due to the heat exchanger becoming redundant on conversion to LPG and superior combustion efficiency of LPG firing.
- b) **Higher Productivity:** Lower pre-heating time due to higher flame temperature of LPG vis-à-vis liquid fuels results in lower pre-heating time and therefore higher output.

Safety and Health

Powder and air mixtures can be a fire hazard when an ignition source is introduced. The concentration of powder in air must be controlled to maintain a safe working environment. Despite the absence of flammable solvents, any finely divided organic material, such as dust or powder, can form an explosive mixture in air. This is normally controlled by maintaining proper air velocity across face openings in the spray booth. In the dust collector, where it is difficult to maintain the powder concentration below the lower explosive limit, either a suppression system or a pressure relief device must be considered.

Inhalation of the powders should be avoided, as this can cause irritation to the lungs and mucous membranes. Proper personal protective equipment should be used.

Anju Kadam
Hyderabad



Finished product

Defensive Driving

Defensive driving is an excellent way to ensure that one is not caught in a road accident and aims at reducing the risk related to driving ability, by recognizing the hazard and acting accordingly. Vehicular traffic on Indian roads has been increasing at a rapid rate and expected to double every seven to eight years. Traffic conditions are thus becoming more challenging by the day.

Poor awareness of traffic rules combined with low driving discipline necessitates that we consciously follow the safe driving practices. Some of these guidelines that are quite easy and simple to follow are:

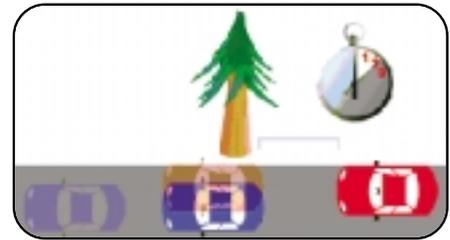
- Always wear safety belts / helmets when driving and ensure that your fellow passenger also wears safety belts / helmets
- Do not use mobile phone while driving.
- Never exceed specified speed limits
- Bad weather such as rain or fog can make driving difficult. Drive slowly when roads are wet.
- Do not drive under influence of alcohol. It

slows reaction time, distorts vision and impairs judgments about distance.

- Remain alert. Expect other drivers to make mistakes. Do not speed up to get through at intersection before the light turns red.
- Do not let your emotions dominate your driving. Avoid eye contact with other drivers and do not make provocative gestures.
- Always maintain a safe distance between you and the vehicle ahead and keep a distance of at least **two seconds**.
- Never overtake on a bend or a blind turn
- Use all your senses not just your vision

Two Second Rule

This is one of the very important safety guideline for use when driving and suggests a minimum distance to avoid collision from the vehicle in front in normal driving conditions. When the rear end of a vehicle in front passes a notable static point on the road such as a road sign, tree, pillar etc – the front of your vehicle should pass the same point no less than two seconds later. (See figure)



One can count "One.... Two..." or still better say "Only a fool breaks the two second rule" at normal speed. This sentence takes approximately two seconds to say and provides a simple and common-sense way of maintaining road safety. Additional allowance should be given under poor weather or other hazardous conditions.

While it may be convenient to dismiss the above guidelines by saying "it is not possible to follow in our city", let us make a sincere effort to follow it in our daily life.

Remember, defensive driving can prevent injuries and save lives.

Sunil Jhingran
Hyderabad

Safe Practices - Unloading of LPG Tanker

Receiving bulk LPG from a road tanker to a static bullet is a critical activity, which requires careful monitoring both at filling plants as also at the Factory using LPG. The activity assumes greater responsibility at the factory premises where the tanker crew is also involved in the unloading process jointly with the Factory staff. Understanding and adopting the correct practices by the vehicle crew and bulk installation staff is important for ensuring both qualitative and quantitative unloading of bulk LPG.



There are many pre-journey checks before the tanker leaves the dispatch location like availability of valid CCOE license, RTO permit, Fire Extinguishers, Emergency Tool Kit etc that ensure that the vehicle meets statutory requirements. A pre-delivery assessment at

customer premises ensures that the tanker is safe for receipt of LPG and the product type and quantity is consistent with the delivery documents.

The important safety measures that are to be ensured at the delivery premises are:

- Receiving bulk should be done only by authorized and trained persons.
- Before LPG tanker enters the licensed area, it is to be ensured that LPG tanker engine exhaust is to be fitted with a suitable spark arrester.
- Fire extinguisher to be kept near the unloading location for any emergency.
- After securing the Tanker in position through wheel chocks, the chassis and the vessel are earthed separately before commencing unloading operation.
- Once connected-up to the pipelines, the vehicle crew remains on the unloading bay along with the tanker at all times and engine ignition is kept in switched-off position.
- Pressure and temperature of LPG tanker and customer bullet should be checked before and after the unloading operation.
- During the unloading process, level of LPG is frequently monitored both in the customer bullet and LPG tanker through the level

measuring instruments to ensure that the ordered quantity or capacity of the customer bullet is not exceeded.

- It is not advised to partially unload a tanker and keep it for prolonged periods in the unloading bay duly connected. There is a possibility of hose rupture due to over pressurization in adverse ambient conditions. In such cases, tanker should be disconnected and moved out of the licensed area for further unloading later.
- On completion, the unloading hose should be isolated from the tanker only after product in the hose is vented in order to de-pressurize the hose.
- Vehicle should be driven out only after ensuring that hoses have been disconnected and properly screwed.
- The tanker is thereafter cleared for post unloading weighments.
- Unloading of tankers after sunset and during heavy rains, thunder storms, lightning etc is prohibited as a safety measure.

A little attention towards the operating practices when unloading LPG will go a long way in ensuring safety of the installation and the people working in it.

Rajashri Shanbhag
Ahmedabad

Safety Features In LPG Firing

LPG is a highly versatile fuel that is widely used in industrial heating and drying applications in industries using furnaces, ovens, kilns and boilers and thermic fluid heaters for their various manufacturing processes or utilities.

A properly designed combustion system is the heart of every such equipment. Every combustion system must have adequate safety and controls - more so when LPG is being used. The brief safety and operational features of individual systems are described below:

1. Flame monitoring system:

One of the key elements in any combustion system is the flame monitoring. Flame sensing rod or UV scanner (self check or non self check) is being used for flame monitoring along with burner sequence controller or flame relay. Selection of UV scanner and flame sensing rod is decided based on type of application, burner firing condition and some times as per customer demand.

- 1 Safety Feature: Flame monitoring system checks the existence of the flame and if flame is not established it shuts off the gas supply to the burner.

2. Burner Sequence controller

Burner sequence controllers with pre purge or post purge features are used. The combustion chamber needs to be purged with combustion air at the start and end of a firing cycle.

- 1 Safety Feature: It takes out any accumulated gas inside the combustion chamber through exhaust and eliminates chance of explosion.

3. Gas Train of burner system

Eclipse gas trains are supplied with all safety accessories like high and low pressure switches, valve proving system, vent valve and safety shut off valves. Gas trains are assembled as per international standards such as IRI or NFPA. Shut off valves are interlocked with pressure switches.

- 1 Safety Feature: In case gas pressure is not in line with the set pressure on pressure switches, it cuts off the gas supply to the system.

4. Air pressure switch

Air pressure switch is recommended in the combustion air line to prove combustion air flow.



Thermjet Burner

- 1 Safety Feature: In case the blower fails due to any reason, shut off valve in gas line will cut off the gas supply to the system.

Eclipse strongly believes in safety and thus supplies each burner system for LPG with all necessary safety interlocks so that the user can enjoy the numerous benefits of LPG with minimal of risks. Eclipse manufactures and markets a range of burners depending on the application, heat load and flow requirements.

VN Deshmukh

Eclipse Combustion Pvt. Ltd.

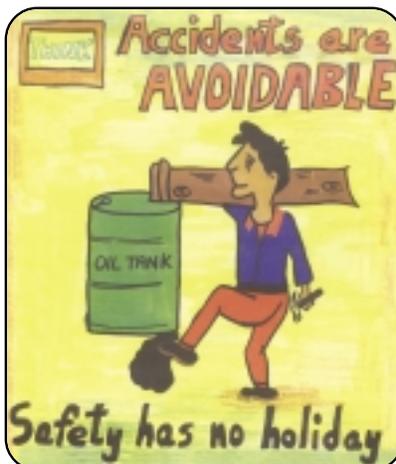
LPG Safety - A must to avoid accidents and save lives !

Accidents occur primarily because LPG cylinder users are not aware of the nature of LPG and its potential risks. LPG is a safe and convenient source of energy. It can however become very unfriendly and dangerous if not handled correctly as it is highly inflammable. The gas is colorless and has a faint smell owing to the addition of a chemical compound called Mercaptan. This smell helps in detection of an LPG leak.

Knowledge about the following common causes of LPG cylinder accidents can help avoid accidents:

- a) Cylinders are subjected to hydro-testing once in every five to seven year period. Untested **Cylinders** are not safe for use and may cause accidents. We need to take our cylinders and refills only from authorized, well established and reputed Bottlers.
- b) **Use of Government subsidized domestic cylinders** in Commercial units like Hotels, restaurants and by caterers etc is forbidden. Additionally such units invariably operate without the stipulated requirement of a safe manifold system, which are to be subjected to periodic safety checks and require skilled persons for operation.
- c) Many **small time bottlers**, some of them unauthorized, use poor quality and untested

cylinders. Such cylinders may be low cost but are extremely dangerous and their purchase needs to be avoided at all costs. We need to buy our cylinders and refills only of reputed brands.



Winning Cartoon by Mr. Ashraf S.S Munera

- d) **Poor-quality of rubber tubes.** The rubber tube, which connects the cylinder to the stove, must be of good quality and healthy condition. Hot vessels or splashing oil may burn a hole in the inferior tube. Once there

is a gas leakage, lighting a match or switching on a light or a fan is enough to ignite the gas and cause the cylinder to explode. Its periodic check and replacement is mandatory.

- e) **Never keep the stove at a lower level than the cylinder.** In several homes stoves are placed on the ground, below the cylinder owing to which LPG may flow out. This liquefied gas spreads even faster, thus magnifying the danger.
- f) When **LPG leakage is observed**, we should immediately report the matter to our distributor for taking corrective action in a safe manner. Use safety cap in case of cylinder valve leak. As LPG is heavier than air, good ventilation will permit it to disperse harmlessly. To avoid providing a spark for ignition of the leaked LPG, switching on or off of any electrical gadget or light is forbidden.

Understanding LPG and using it correctly can go a long way in avoiding accidents. Conversely compromising on LPG safety by using cylinders from unscrupulous and unauthorized parties can have disastrous consequences. As users we need to choose between lower costs and one's Safety

Tuhin Mitra
Kolkata

Customer Speak

The ever increasing fuel costs have prompted Industries to look for various ways and means to reduce such operating costs. Super Gas gave us the required response as a complete solution provider and we could replace the heating medium from LDO to LPG in our boiler successfully. The approach of Super Gas in executing the installation is very professional and they also cover all the aspects of training and safety. We previously started with a single LPG fired boiler running on VOT system, but over the period of one year with our own expansion in production process, we have also started another LPG fired boiler, both successfully running on LOT. I personally would recommend Super Gas to all potential users in confectionary Industries, who are keen on saving costs for their Industry.

Praveen Mehtani
Director
Smooth Ayurvedic Pharmacy Pvt. Ltd.,

We are pleased to state that we have been using Super Gas for our Combustion system since November 2005. We are extremely satisfied with the technical and logistics service rendered by Super Gas. Recently, Super Gas has installed a Liquid Auto Change over Device in the 33 kg LOT cylinder manifold system. This Auto changer is very useful and has eased our operations to a great extent. Our best wishes are with Super Gas for providing such innovative solutions.



Lalit Mohan
General Manager
Indian Chain Private Limited

We are pleased to state that we have been using Super Gas for Combustion system for our LPG Burner since February, 2001. We are very much satisfied with the regular services as well as breakdown services provided to us. They have always given us all sorts of technical supports in case of emergency situations. Delivery schedule of Super Gas is satisfactory.



Saswata Basu
Manager Production
Ananda Offset Private Limited

Do's & Don'ts for Diwali

Diwali is the festival of lights, fun and fire works. Mishap causes accidents, avoid with simple precautions. Take some time to explain this to your family and ensure a safe Diwali.

Do's

1. Fire works need careful handling. Keep your distance
2. Keep the fire works as far way from the body as possible
3. For lighting fire works, use long lighting stick
4. Use cold water over the burnt body part for 10 minutes to cool down

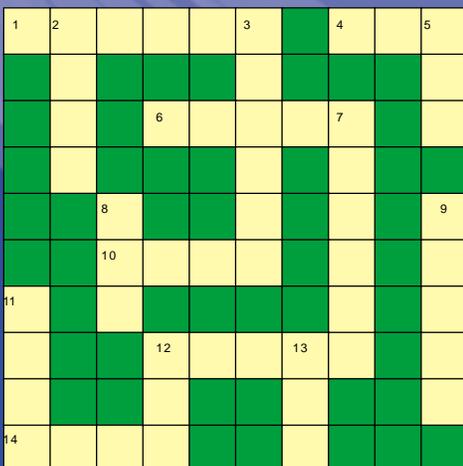
5. Clean with running water on effected eyes till the burning sensation lasts
6. Wear close fitting clothes of thick material when operating fire works
7. Store fire works away from all sources of HEAT
8. Check the area to be sure all flammable and combustibile materials is removed

Don'ts

1. Do not wear loose and flowing clothes while lighting fire works
2. Fire works should not be re-lit
3. Do not hold in the hand or close to the face for operation

4. Don't put others in danger at your personal risk
5. Never light fire works inside the house or in a vehicle
6. Fire works should not be aimed or thrown at people or animals
7. Fire works / crackers must not be operated in VICINITY of explosive public places like petrol pumps, LPG cylinder godowns and fire works shop
8. Never rub the eyes if you suspect an injury
9. Never give any medicine orally in case of burn injury

Fire Safety Crossword



ACROSS

- 1 Avoid installing LPG piping in this
- 4 Maximum concentration of flammable vapour in air above which propagation of flame does not occur on contact with ignition source
- 6 Study required to establish safety of operation
- 10 Vehicle accident on slippery terrain
- 12 Our work place where machinery and equipment are operated
- 14 The famous triangle with three elements

DOWN

- 2 A situation that could be dangerous
- 3 A potential danger
- 5 Minimum concentration of flammable vapour in air which will ignite if an ignition source is present
- 7 Permission required before starting any work at Plant
- 8 If in doubt ?
- 9 Chemical substance that can dissolve some metals
- 11 Avoid having this situation!
- 12 Protective clothing
13. Do not do this when on duty

Answers:

Across: 1. Trench 4. UEL 6. Hazop 10. Skid 12 Plant 14. Fire
Down : 2. Risk 3. Hazard 5. Lfl 7. Permit 8. Ask 9. Acids 11. Tiff 12. PPE
13. NAF

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