

# ALL FIRED UP

## TIPS ON FIRE SAFETY AND PROPER FIRE EXTINGUISHER USE.

Words by Jess Fogarty. Pictures by various.

**I MAGINE YOU'RE DRIVING DOWN A GRAVEL ROAD IN THE MIDDLE OF NOWHEREFONTEIN WHEN YOU SMELL BURNING; AND THEN YOU SEE SMOKE.**

You hop out of the car, wrench the bonnet open – and before you can blink, the engine bursts into flame! What do you do? Do you grab the extinguisher? Do you even *have* a fire extinguisher?

Fire is a powerful element, symbolising both destruction and rebirth. It is not to be taunted or played with; it can be your best friend in the middle of an icy winter, or your worst enemy come the hot, dry summer. Fire comes in different categories, as do fire extinguishers. But, what is a fire extinguisher, anyway?

Typically, a fire extinguisher is a hand-held cylindrical pressure vessel containing an agent which is discharged to extinguish a fire; but we need to know that there are different kinds of fire extinguishers. Tackling a fire with the wrong type of fire extinguisher can be ineffective and even dangerous.

In SA, our classification of different fire types is based closely on the American model: each class designates the fuel involved in the fire, and thus defines the most appropriate extinguishing agent.

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- Class A** Combustible solids
  - Class B** Flammable liquids & gases
  - Class C** Electrical equipment
  - Class D** Combustible metals
  - Class K** Cooking oils or fats
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An 'ordinary combustible' is the most common type of fire. These fires occur when solid, organic materials – such as wood, cloth, rubber, paper and textiles – become heated to their ignition point. At this point, the material undergoes combustion, and will continue burning as long as the three main components of fire (heat, fuel and oxygen) are present.

Statistics show that 75 percent of all vehicle fires is caused by an electrical fault. This is due to there being a great deal of heat generated, either as a direct result of combustion or motion, or from your vehicle's heater. You may not think that your vehicle would burn very easily, what with the metal body and all, but a vehicle fire can be extremely dangerous.

First, the metals conduct heat very well, making the fire harder to put out; then the melting of the plastics and wiring create toxic gasses which can kill; and then the fuels and

oils keep the fire burning for long periods and can spread the fire to the road or to other vehicles, and make it dangerous to put out the fire with water. It's estimated that it may take only four minutes to burn

out an entire caravan, and that in that short space of time temperatures can reach at least 600°C. This doesn't give you much time to act.

### WHAT TO BUY

Different fire extinguishers use different extinguishing agents. These include water, foam, dry powder, CO<sub>2</sub>, and Halon – although the last-mentioned has been discontinued because of environmental concerns. Water is best for class A fires, as water reduces the heat by cooling. Foam is best for class A and B fires as it also works as a coolant, and especially on class B fires as it blankets the fuel and cuts off the available oxygen. Dry Powder is effective on most fire types, but it doesn't have the cooling effect that foam and water do – cooling is required after the flames are extinguished. CO<sub>2</sub> can be extremely useful under certain conditions, but, as it is an inert gas that is heavier than air, if there is an opening in the area where the fire is, the gas will flow out to the lower level, leaving the fire to rage on.

As there is no extinguisher suited to all fire classes, it would be best to get an ABC extinguisher. These are dry-powder extinguishers that cover most of the day-to-day fires which you're likely to encounter. The smallest size they're manufactured in is one kilogram, so be prepared to make space.

They can also handle rough treatment, but Chubb Fire and Security suggests that off-roaders check their powder sooner than the recommended five year intervals, because it compacts when carried in a vehicle. The negatives of the dry-powder extinguishers are that they are extremely messy, and some powders are corrosive, so one has to be careful.

Charles van Niekerk, owner of Pyrotech in Knysna, who has been involved in the fire extinguisher industry for near 40 years, suggests that you should always have the biggest possible fire extinguisher for the space you have allocated, plus a spare. This might be difficult in your rig, as many of us pack our vehicles to the limit. Charles always travels with a 4.5 kilogram extinguisher. Bulky – yes, but well worth it if you can spare the space.

An extinguisher will always come with certain information on the label or sticker: the weight, class, and SABS stamp of approval. It should also include other information, often aided by pictograms. These include test pressure, working pressure, country of origin, and date of last service. For a quality check, make sure that the cylinder also includes a hard stamp of the manufacturer's name into the metal. But don't wait until ►

you have a roaring fire to scratch around for your spectacles to read the instructions while the fire spreads around you; read the label and make sure you understand the instructions as soon as you buy or install the extinguisher.

It's important to look for the year of manufacture, as well as the service sticker. This is in order to avoid buying a second-hand extinguisher – and this must be avoided at all costs! You won't know if the extinguisher has been faulty in the past, or is old and corroded – any of which could lead to malfunction, thus putting you, your possessions, and other people at risk.

When it comes to purchasing your extinguisher, you will find that there are many different manufacturers – such as INTA, SafeQuip, CENTA, CHUBB or Natex. The products range in price, product and quality, but a fire extinguisher isn't an item where you should look for the best deal. Although they may be more expensive, Ansol are regarded by many as the Rolls Royce of extinguishers. You cannot cut corners on your safety, so allow yourself the expense.

## PRODUCT KNOW-HOW

One product growing in popularity is the Fire Stryker. This is a portable aerosol inhibitor with remarkable extinguishing capability. It's environmentally safe, non-toxic, and non-corrosive, has no electric conductivity, and leaves no residue behind after being discharged.

The extinguisher is handy, easy to use, and will slip into any of those extra corners and crevices that you have left in your packing space. It is activated by striking the head like a match, and never has to be serviced. Genius, really! They are extremely handy for a small fire in a confined situation, but are not as reliable when there is plenty of air movement – something hard to avoid in the off-roading world. They do, however, cover A, B and C fire classes, and come in three different sizes (measured in the seconds the discharge is active). Being so small, they are extremely convenient – because you can carry multiple extinguishers at any one time.

It is not mandatory in SA to carry an extinguisher in your vehicle, which allows more choice on which product to buy; but don't buy a cheapie that will fail when it's needed the most.

Another product slowly creeping onto the market is the lightweight FIRE STOP 1 000 ml Foam Aerosol Fire Extinguisher. It's a stored pressure unit great for tackling small fires, especially Class K, or small kitchen fires. One of these is handy to have in your caravan or camping kitchen, for that Justin (*just-in-case*) moment. They may be small, but hold enough dense foam to fill up a kitchen sink, and come with their own vehicle-mounting bracket. They are also non-toxic, environmentally safe, and ozone friendly – which makes us all feel better about using them in the outdoors.

## TACKLING A FIRE WITH THE WRONG TYPE OF FIRE EXTINGUISHER CAN BE INEFFECTIVE AND EVEN DANGEROUS.

They are currently only available from Speedie's Enterprises in Witbank, and Pyrotech in Knysna. The extinguisher is, however, not SABS approved, so not everyone is complimentary about this new product.

Red Watch *Fire Master* Mike Law recommends only ever using SABS-approved fire extinguishers that are large enough to make an impact. "You need to utilise the first few seconds of the fire profitably; if your extinguisher is Mickey Mouse – you're farting against thunder".

Mike says that you should always travel with more than one extinguisher in your vehicle. Some statistics show that at least 50 percent of extinguishers don't fire correctly (through human error or mechanical failure) when needed, and you shouldn't leave yourself open to becoming a statistic. So take an extra one – or three if you have the space.

Ansol extinguishers are more expensive than your local extinguisher brand; this is because they are imported from the USA. The K-Guard is an Ansol extinguisher specifically developed for fighting kitchen or grease fires. There is currently no local SABS-approved product like it available in South Africa. The Ansol range includes an assortment of vehicle brackets, and both the 1.1 kg and 2.3 kg Sentry DCP Extinguishers come with vehicle brackets included in the price. ▶



If a fire extinguisher does not come with a vehicle – or mounting bracket, there are products on the market which serve the same purpose, such as the Quick Fist. This product, from SecureLoad, is a series of mounts, made from heavy-duty, transportation-grade rubber, for mounting vehicle tools and equipment. These straps are not affected by hot or cold climates, and are UV resistant. They are extremely useful as they can be mounted almost anywhere on your vehicle, are durable, easy to use, and come in different sizes. The Super Quick Fist is perfect for mounting your extinguisher, so that it's secure and accessible. All SecureLoad's products meet and exceed SABS / SANS standards.

Another fire must-have is a Fire Blanket. Most commonly made of fibre-glass or Kevlar, a fire blanket is easy to use, and is made to extinguish small fires. If you buy an SABS-approved fire blanket, then you know it is good quality, made to international standards for fire control. These blankets can also be squeezed into any spare room you have in your 4x4 or caravan, never need to be serviced, and can be washed and folded back into their container for re-use at any time.

Although fire blankets will not put out a bigger fire, they are extremely handy to travel with. You can take as many as you can fit in, and you can use one for multiple purposes: to put out a small kitchen fire, or to wrap around someone whose clothing has caught fire, or as a wind barrier around your campfire if its too windy, or to deflect sparks if welding around gas or electrical parts on your vehicle. This is, without a doubt, one of the most cost-effective fire-fighting items.

## KEEPING UP APPEARANCES

When you are off-roading, the vibrations of your car can compact the powder inside the extinguisher until it becomes like concrete. This makes the extinguisher unreliable, and less likely to work. If you turn the unit upside down, you should be able to hear the powder trickling through. If not, tap the cylinder with a rubber mallet to loosen the powder.

In the times when you are not driving, or before you go on a trip, store your extinguisher upside down to allow the powder to move and loosen inside the canister – but always fasten it upright to your car! Because of the inner workings of an extinguisher, storing it on its side can encourage the powder to settle on the side of the canister, and result in your spraying a stream of pure nitrogen onto the fire you are trying to extinguish – exciting the fire even more.

Extinguishers used for public service, such as those in shopping centres, office – and apartment buildings, are legally required to be serviced annually. For those in private use, such as the ones in your home or vehicle, there are no such restrictions; although it is recommended that you do so anyway, and completely replace the extinguisher within three years. Reconditioning primarily

## DON'T WAIT UNTIL YOU HAVE A ROARING FIRE TO SCRATCH AROUND FOR YOUR SPECTACLES TO READ THE INSTRUCTIONS

involves conducting a pressure test on the cylinder, ensuring that the vessel body has not corroded, and then returning the extinguisher to original operational readiness.

Failure to maintain your extinguisher could result not only in the user being unable to extinguish a fire, but possibly also lead to the serious injury or death of the operator and bystanders. "Fire extinguishers are like insurance policies – you do not bother too much with them until there is an accident; and only then will you find out if there is a problem with them or not," comments South African Bureau of Standards (SABS) manager Roger George.

## FIGHTING THE FLAMES

The most common cause of fires in campsites is cooking equipment. Gas lines get clogged and hoses wear out eventually. If you get a flame from the fitting or hose, turn off the gas as quickly as possible and then put out any flames left with a powder-type extinguisher. If the flame is coming out of the cylinder itself, put the flames out with the extinguisher and then turn off the gas.

In your vehicle, identifying where the smoke or smell is coming from will have a direct effect on your actions. Usually there will be some kind of warning, either on your dash, or the smell or sight of smoke.

Stop your vehicle and stay on the hard surface – don't pull over in a dry grass field or into the nearest petrol station! Pull off away from other cars, and don't stop on top of a hill or on a gradient – a burning vehicle rolling down a hill towards a small village is a terrible picture. Switch off your vehicle and flick your battery isolation switch if you have one – if not, just be sure to cut the power. Get all passengers out of the vehicle, and if you're towing, remove the unit off the back as quickly as possible.

Make sure that you have all the necessary fire-fighting equipment out of the car with you. Once you have isolated the electric power, your biggest worry may be only smouldering wire and insulation, but be wary as you may have damaged some other components. Pop the hood, but leave it down! Many people make the mistake of flinging the hood open, which sends waves of oxygen rushing to the heated elements, and turns a small engine fire into a roaring engine fire.

Discharge your dry-powder extinguisher in bursts through every available opening, and, if need be, through the radiator grid above the number plate. If your vehicle doesn't have a grid, then direct the powder upwards from under the engine between the wheels. Depending on your success, you can now open the bonnet and apply your cooling agent – water – as quickly as possible. ■

## BUYER'S GUIDE



### Chubb DCP (Dry Chemical Powder) Extinguishers

1 kg R115  
1.5 kg R150

Contact Chubb Fire and Security on 011 458 9400 or [chubb.assist@chubb.co.za](mailto:chubb.assist@chubb.co.za) or visit [www.chubb.co.za](http://www.chubb.co.za) for more information.



5B



8B



13B

### Fire Stryker

5B: 25 seconds / 230 grams (including vehicle bracket) (26.8 cm x 3.7 cm) R343.14

8B: 50 seconds / 275 grams (including vehicle bracket) R406.98

13B: 100 seconds / 550 grams (including vehicle bracket) R486.78

Contact Fire Stryker SA on 083 324 3564 or [info@safirestryker.co.za](mailto:info@safirestryker.co.za) or visit [www.safirestryker.co.za](http://www.safirestryker.co.za) for more information.

### Pyrotech Foam Aerosol Fire Extinguisher

FIRE STOP 1000ml (including vehicle bracket)  
(27.6 cm x 6.9 cm) R44.99

Contact Pyrotech Knysna on 044 382 3175 / 082 901 4878 or [cjvan@telkomsa.net](mailto:cjvan@telkomsa.net) for more information.  
Or contact Speedie's Enterprises Witbank on 013 692 3379 or [speedie@mweb.co.za](mailto:speedie@mweb.co.za) or visit [www.speedies.co.za](http://www.speedies.co.za)



### Chubb fibre glass Fire blanket

0.9 metres x 0.9 metres R 58  
1.8 metres x 1.2 metres R105  
1.8 metres x 1.8 metres R150

Contact Chubb Fire and Security on 011 458 9400 or [chubb.assist@chubb.co.za](mailto:chubb.assist@chubb.co.za) or visit [www.chubb.co.za](http://www.chubb.co.za) for more information.



### Quick Fist extinguisher bracket

Super Quick Fist R150

Contact SecureLoad on 086 104 0506 or visit [www.liftlash.co.za](http://www.liftlash.co.za)



### Ansul portables

1.1 kg Sentry DCP Extinguisher (including vehicle bracket) (36.2 cm x 14 cm) R 498  
2.3 kg Sentry DCP Extinguisher (including vehicle bracket) (43.2 cm x 21.6 cm) R 677  
4.5 kg Sentry DCP Extinguisher (52 cm x 21 cm) R 164  
4.5kg Heavy duty vehicle bracket R 490  
9 kg Sentry DCP Extinguisher (57.2 cm x 24.1 cm) R2 137  
9 kg Heavy duty vehicle bracket R 537  
6 litre Sentry K-Guard extinguisher (54 cm x 24.1 cm) R2 086  
6 litre K-Guard Vehicle bracket R 537

From Left: Sentry DCP Extinguisher; Sentry K-Guard Extinguisher; Vehicle Bracket



Contact Ansul on 011 869 2142 or [armand@advancedfst.co.za](mailto:armand@advancedfst.co.za) or visit [www.advancedfst.co.za](http://www.advancedfst.co.za) or [www.ansul.com](http://www.ansul.com) for more information.