



The Consumer

A PUBLICATION OF THE
CONSUMERS ASSOCIATION
OF SINGAPORE

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President's Message



Dear readers,

The COVID-19 pandemic has affected many businesses. As we cross over into the new year, you may have read the news about the closure of Robinsons, a longstanding department store which had been part of our retail history for more than a hundred years. This raises the concern about the risks that consumers face when making prepayments.

In this issue, we dive into the risks that consumers subject themselves to when they

pay in advance to a business before completion of the service or delivery of the goods. Although making prepayment is generally accepted in some industries, there are different options you should consider before parting with your hard-earned dollar.

In the event of a business going insolvent, consumers may not understand what goes on during liquidation or what that process is about. In this issue, we shed some light on the liquidation process to help you understand the considerations at play when a business is wound up or becomes insolvent. Read on to find out where an individual consumer rank in this priority queue when it comes to getting his money back.

Also in this issue, Credit Bureau Singapore reveals that Millennials have the highest increase in credit utilisation. That makes it imperative for those within this bracket to understand credit better and ensure their own credit score remains at a healthy position.

Our friends in Australia did a review of mosquito repellents and it rendered some interesting results. In their article, CHOICE shares some

of their recommendations based on the effectiveness of each product. As Singapore continues their battle with dengue, take some time to consider the repellents suggested by CHOICE and take note of their tips on how to properly use them.

E-payments are slowly taking over the nation and before we know it, it will likely be available everywhere we go. Even at hawker centres and coffeeshops, you can find QR codes pasted at the stall front for consumers to easily complete their contactless payment. Read this piece by MoneySense to find out how e-payments work and how you can keep your money as safe as possible while transacting with your device.

We hope our readers enjoy reading this issue as much as we enjoyed putting it together!

Lim Biow Chuan
CASE President

Prepayment Dangers

“Consumers lost \$2.37 million in 2019 after firms suddenly shut,” was the headline in 2020¹. Prepayment losses have always been a pressing issue at CASE. This then begs the question, do consumers consider the risk before parting ways with their money on goods they cannot get their hands on yet?

Witnessing the high-profile closure of household name Robinsons once again brings the risk of prepayment loss into the spotlight. According to a report by The Straits Times, Robinsons owed over 440 creditors at least \$31.7 million as of November 2020², so there was rightfully an onset of concern about what would happen with that much owed to that many creditors. Some consumers were worried that they will not get a chance to use their Robinsons vouchers while others wondered if they would still receive items such as mattresses they had already paid a deposit for. So why did consumers pay in advance for their mattresses? Does not the act of making an advance payment seems almost counter-intuitive since we do not get to use whatever it is we paid for immediately?

For one reason or another, those who shopped at Robinsons were comfortable enough to pay for their mattress and receive it at a later date.

And yet this is not limited to retail shopping, it is not an uncommon sight to see people prepaying for years of gym memberships or even pre-ordering video games when the release date is at risk of multiple delays.

Perhaps some willingly prepay because they have confidence in the brand, or they were unfortunately blindsided by a turn of events, or maybe they saw their favourite celebrity or idol endorsing a brand and immediately thought their endorsement should be reliable. The common frame of mind is that one never expects things to go wrong so people tend to ignore the risks. But evidently, being an established brand or having multiple endorsements cannot guarantee you anything.



END OF AN ERA

Take the latest business closure for example, when Robinsons announced they were closing down, some consumers were at a loss as they had vouchers which they hadn't use and goods which Robinsons had not delivered. Consumers scrambled down to Robinsons to find something they can use their vouchers on before the store close their shutters for good. While the scramble to clear vouchers went on, other consumers who had prepaid for goods were in limbo. When a business shuts down, rarely can consumers ever get their money back.

Ask yourself this, would you pay a complete stranger upfront before you got your item? Most would arguably say no, and their reason would probably be that the person could suddenly disappear and there would be no one left behind that can deliver your item or that you can get your money back from. Yet, consumers still felt comfortable prepaying for something from a big company, maybe because they felt nothing would happen to a brand as big as Robinsons that had been around for such a long time. There wasn't any added assurance that the item can be delivered as promised when they paid for it, other than the fact that Robinsons was a big brand and you probably didn't expect it to fold the way it did.

Besides, being an established brand does not excuse you from the harsh realities of consumer trends. Even before the pandemic, many consumers had already begun to shift from offline to online shopping and this has only been accelerated by recent events. This is a prime example that nothing can be taken for granted in this world, even retail giants are at the mercy of the everchanging consumer trends and unforeseen circumstances. Unprecedented events, such as a pandemic, can take down even the longest-standing brands and hasten the shift of the consumer dollar away from retail stores.



Fortunately for some of these consumers, four mattress firms decided to fulfil orders paid in full to Robinsons and deliver the mattresses to the consumers. However, this does not always happen whereby a consumer prepaid for something, the business shuts down and they still manage to receive their goods. It is best to play it safe and try to make purchases where you can bring home the product immediately. The size of the brand should not affect your consideration when pondering the risks of making advance payments for an item.

GROUNDING

A recent example of a business being badly hit by an unforeseen pandemic is STA Travel. The travel agency known for its budget round-the-world plane tickets was very popular amongst students, as evidenced by them setting up retail locations at several universities in Singapore. The outlook of the travel industry looked gloomy in general, but STA Travel attracted media attention as it was reported that they owed their customers more than \$600,000 as they closed for good¹.

It is harsh on consumers who have previously paid for a travel package to be hit by this news. Almost everyone makes travel plans in advance, and payment is always collected upfront. No one would possibly know

that the entire world will be affected by a global pandemic, and with the resulting travel restrictions, the closure of travel agencies should not come as a surprise. Consumers who lost money here can only hang onto the hope that they can get at least a fraction of their money back as the company liquidates. Being impossible to predict the future, it is simply a risk consumers have to accept when they pay for a travel package knowing the trip probably will not happen anytime soon. Alternatively, consumers can consider purchasing travel insurance to cover these unforeseeable events. At a cost, it can protect you from certain financial risks and losses and reimburse you if your travel plans are affected by things that are out of your control.



¹ <https://www.straitstimes.com/singapore/consumers-lost-237m-in-2019-after-firms-suddenly-shut>

² <https://www.straitstimes.com/business/a-year-when-some-retailers-lost-the-battle-for-survival>

³ <https://www.straitstimes.com/singapore/sta-travel-which-ceased-operations-in-september-owes-customers-and-former-staff-1m>

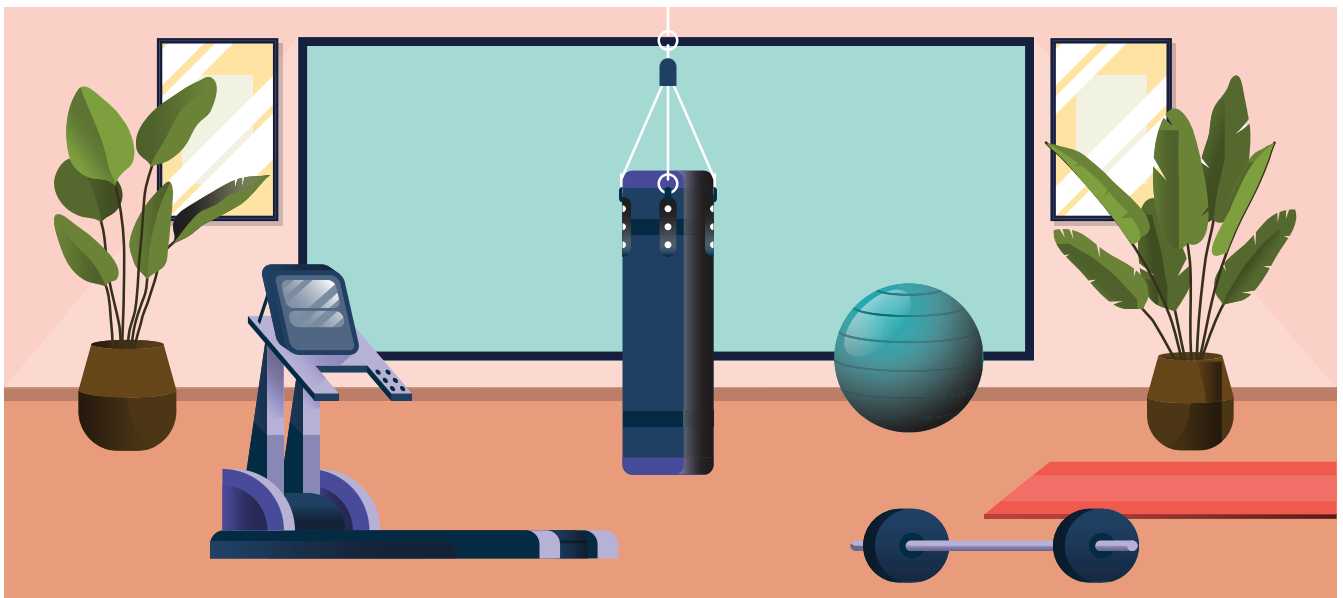
NO GAINS, ONLY LOSS

The practice of prepayment transcends industries and one example where hundreds of consumers lost money due to a business closing down was California Fitness. The Hong Kong fitness club was famous for its glass walls and modern equipment. They were also big on using celebrity endorsements to attract consumers with the likes of international superstar Jackie Chan, NBA superstar Yao Ming as well as Taiwanese singer/actor Richie Jen. With the glitz and glamour of celebrities advocating fitness and encouraging people to join them in achieving a healthier lifestyle, who can blame consumers for flocking down to California Fitness to sign up for a membership, especially if the stars were people they idolised?

Back in 2016, when they abruptly closed down, CASE received more than 400 complaints against the fitness club. They reportedly owed over \$20 million to an estimated 27,000 members as many of them had membership packages for which they were no longer able to use.

While some were able to count their blessings as they were nearing the end of their membership when the fitness centre folded, others may not be as lucky if they had just joined, especially those who signed up for a two or three-year membership.

At this point, one can only lament their own bad luck as they see their money gone with the wind. How could anyone have known that a gym endorsed by international superstars would one day face financial difficulties? But if you take a step back and think about it, getting celebrity endorsement does not make the business bulletproof. The same risks are at play whether or not influential people came out to endorse the company. As soon as you sign up for a membership, you are taking a risk on your money, and that risk is magnified when it is a long-term deal. Which is why we constantly reinforce the idea that shorter membership periods or even pay-per-use options might be a better choice given that there are lesser risks involved.

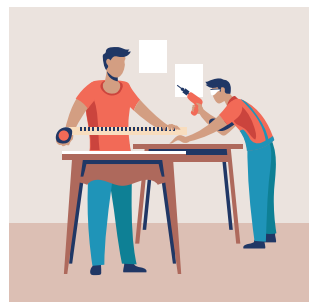


SMALLER RISKS WHEN BUILDING A HOME

There are instances where prepayment is an industry practice given the need to secure materials, resources, and manpower before work can proceed. One such industry that might require this is the home renovation scene. Even though making an advance on payment is necessary, the advice we have been sharing still applies. Less risk, in this case, means not making huge payments upfront lest something untoward happens to your money before you receive what you had paid for. How you ask?

One way you can protect your money during renovation is to request for progressive payment and planning your payment milestones when negotiating with your renovation contractors. Negotiate a payment plan whereby you pay as each step of the renovation is complete, for example paying after masonry, then after carpentry, then after plumbing and electrical. Besides payment milestones, you should also negotiate to pay as low a deposit as possible as well as asking to retain around 5% to 10% of the total amount payable until after the satisfactory rectification of any defects that remain.

Through this, you would have minimised the risk of prepayment loss to each payment milestone compared to paying a huge amount of deposit upfront before any renovation work even started.



TAKE FEWER RISKS WITH YOUR MONEY

Judging by the unpredictable nature of the economy, things happen all the time that are out of our control, which is further testament to why we should take the necessary precautions whenever we can.

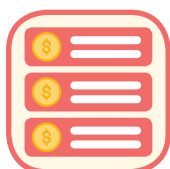
Consumers should consider options that do not require them to commit a large amount of money whenever they can. We urge consumers to always consider the risks involved when prepaying for services or goods. There are a few alternatives to working around having to prepay huge sums of money:



Per-per-use options for beauty services or gyms



Short term packages/memberships e.g. 3-5 sessions, 1-3 months



Progressive payment for renovation milestones

If you are still keen on packages or memberships that require upfront payment and would stretch over the course of months or years, you should consider some of the following:



Are you going to be able to effectively utilise it?



Is this something you need?



Would it be worthwhile to prepay so much money?



Is the cost financially viable in the long run?



Would you be able to handle losing the money for good?



Of course, you would never be able to predict the future and what might rock the economy, and whether a business would be able to withstand these downturns. Yet we willingly pay for things we don't get to utilise in the near future and more often than not, we do it without question or hesitation. Why is that so? Are we that glib about supporting the business with our dollar? Or are we simply trying to save money in the short term while ignoring the risks in the long run? Perhaps it is because sometimes the deal staring us in the face seems like too good an opportunity to pass up.

Regardless of the reasons, making advance payment is a widespread phenomenon across many industries and is a cause for concern for us here at CASE. Over the years, consumers have come to us over money lost after a business becomes insolvent which makes it challenging to recover whatever money they had put down. Exercising caution is the best move here, hence we constantly advocate taking fewer risks with your money because we never know what will happen down the road. Even though it may not be as cheap in the long run, you can rest easy knowing your money is not in danger or at least only a small amount is at risk. Consumers should never be a hundred percent confident to pay large sums of money upfront when it remains to be seen if the other end of the deal can be fulfilled.

As you approach similar crossroads in the future, when deciding whether to prepay for something, hopefully you will be reminded of what you've read here. You may not save as much but at least you would have eliminated or drastically reduced the risk. One can never be too safe with their money, expect the unexpected and bear our advice in mind before prepaying for anything!



Liquidation in Singapore

How the process unfolds when a business folds

“Robinsons creditors appoint KordaMentha as liquidators”; “Retail business closures in Singapore hit 10-month high in September”; “Undelivered purchases, money possibly lost: Robinsons’ closure leaves customers, suppliers in the lurch”.

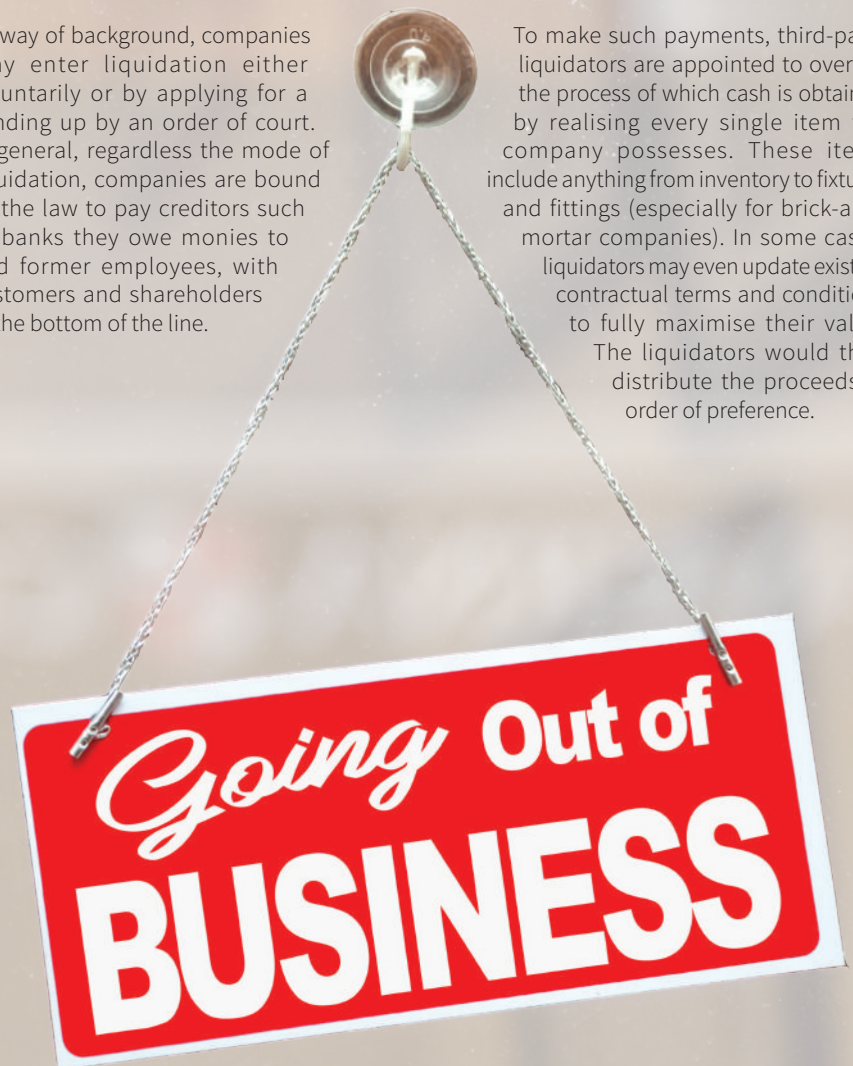
Similar headlines were repeated all over the globe in 2020 as the COVID-19 pandemic sent retailers scrambling to adapt (or risk being phased out).

With little to no response time given the uncertainty of the pandemic, some retailers saw demand crash and customers continue to shift channels. Given the retail industry’s high dependency on cash for payment for inventory, rent and employees (just to name a few), some retailers conceded defeat to rising operational costs coupled with plummeting sales.

Take Singapore’s renowned departmental store, Robinsons & Co. (“Robinsons”), for example. In late October 2020, the company left many shocked and disappointed when it announced its liquidation “after more than 160 years in the country ... following ‘significant shifts from offline to online spending’ among customers and weakened demand exacerbated by the COVID-19 pandemic”¹. It was also reported that Robinsons’ had owed its 442 creditors, which includes consumers, some S\$31.7 million², and that the distribution of assets would only be done in Q2 of 2021³. So what happens behind the scenes between such a liquidation announcement and the time when the company’s assets are distributed?

By way of background, companies may enter liquidation either voluntarily or by applying for a winding up by an order of court. In general, regardless the mode of liquidation, companies are bound by the law to pay creditors such as banks they owe monies to and former employees, with customers and shareholders at the bottom of the line.

To make such payments, third-party liquidators are appointed to oversee the process of which cash is obtained by realising every single item the company possesses. These items include anything from inventory to fixtures and fittings (especially for brick-and-mortar companies). In some cases, liquidators may even update existing contractual terms and conditions to fully maximise their value. The liquidators would then distribute the proceeds in order of preference.



¹ <https://www.channelnewsasia.com/news/singapore/goodbye-robinsons-close-down-stores-history-heeren-raffles-city-13414194>

² <https://www.straitstimes.com/singapore/consumer/robinsons-owes-440-creditors-nearly-32-million>

³ <https://www.channelnewsasia.com/news/business/robinsons-creditors-meeting-pay-suppliers-stores-liquidation-13645302>



Company enters liquidation



Liquidator is appointed to realise company's possessions for cash



Liquidators distribute proceeds according to the various classes

In short, secured creditors and preferred creditors rank top in priority. These categories include banks whom the company owes for the repayment of secured loans, liquidators whom the company owes towards liquidation fees, winding up costs, and labour costs (eg. wages and remuneration owed to employees of the company).

Right at the bottom of the priority list are the unsecured creditors – you and I – and members of the company. Even if the company had excess monies after paying its secured creditors, unsecured creditors would only be entitled to monies (if any) after they have filed a Proof of Debt with the liquidator. Should an unsecured creditor fail to meet the stipulated deadline imposed to file a Proof of Debt, he/she would be excluded from the distribution of assets. Any residual assets of the company would then be divided amongst the company's shareholders. There could also be a possibility where an unsecured creditor's claim is rejected either partially or fully. In such cases, an appeal may be made against such rejection. In short, there is a possibility that consumers may not stand to receive any payment / refund for goods or services undelivered.



Secured Creditors

1



Preferred Creditors (Banks, Liquidator, Employees)

2



Unsecured Creditors (Consumers)

3



Members of the Company e.g. Shareholders

4



Upon the completion of the liquidation process, the liquidator would then apply to Court for an order that the liquidator be released, and the company dissolved. The company would only cease to exist from the date of the order of the dissolution.

As we can see from the case of Robinsons' liquidation, it may be challenging for aggrieved consumers to seek recourse when the business goes insolvent. To this, the Consumers Association of Singapore had reported that they had received consumer complaints against Robinsons for failing to honour consumers' purchases. Fortunately for some affected consumers, a handful of mattress manufacturers had eventually agreed to "honour the orders despite Robinsons' failure to pay them"⁴.

Evidently, businesses big or small alike are not immune from winding up proceedings, especially in such trying times. It is thus prudent for consumers to be vigilant and to exercise caution when making advance payments, while remaining mindful of the risks of making large sums of prepayment.

⁴ <https://www.straitstimes.com/singapore/4-mattress-firms-to-fulfil-orders-paid-to-robinsons>

What Millennials should know about Credit Health

Today, credit is essential for our daily lives and we often rely on it for big ticket purchases. If you intend to buy a car or a house, the most common choice is to take up a credit loan from a bank or a financial institution.

According to Credit Bureau Singapore's latest published Consumer Credit Index analysis in Q3 2020, credit utilisation for Credit Card and Overdraft had the highest increase amongst the age group 21-29 (Q3 vs Q2). With an increased utilisation of 10.66% for Credit Card and 16.4% for Overdraft while Credit Card balances averaged at \$2,096 for this age group (Sep '19-Sep '20).

If you fall within this age group and only have a vague idea about credit, this article will give you a better understanding of the overview of credit facilities as well as help you improve your credit health.



What is Credit?

Credit is borrowed money from banks and financial institutions that is paid back at a later time, which normally includes both the interest and the principal sum. This is in contrast to debit, whereby goods and services are paid or deducted immediately from your bank account. A significant advantage of paying through credit is the ability to pay for something that you otherwise might not be able to. For example, if you want to study in a university but do not have the full tuition fee, you can take a student credit loan to finance your education.

Secured vs Unsecured Credit

Credit comes in two general forms, secured and unsecured credit. A secured loan is linked to a collateral, usually real estate or motor vehicles. The most common secured loans are mortgage loans and car loans. The downside to this loan is that if payments are not fulfilled, the lender can take possession of the collateral from the borrower. However, one can really benefit from a secured loan as the interest rates are comparatively lower than unsecured loans interest rates.

On the other hand, we have unsecured credit. Unsecured loans are not backed by any collaterals and lenders will not be able to claim any of the borrower's assets in repayment default situations. Due to the higher risk for lenders, interest rates for unsecured loans tend to be higher than secured loans. Some examples of unsecured credit include unsecured credit cards and unsecured personal loans.

Maintaining Good Credit Health

Why do we need to maintain a positive credit reputation? The higher your credit score, the lower your probability of default. This indicates to lenders that you are able to make payments on time and in full, not showing signs of credit hunger and a low possibility of delinquency and defaults on loans. A higher score usually increases your chances of getting approvals for credit cards and loans, along with chances for a higher credit card limit. These are some of the benefits rewarded to those who are financially responsible with managing their credit.

To build your credit score, it is crucial that you pay your credit card bills and monthly loan instalments on time and in full. In addition, lenders prefer to see more breathing room between the amount of debt reported on your credit cards and your total credit limits. Applying for more credit in a short span of time sends an indication to creditors that you are desperate for credit and likely to be a risky borrower. Hence, it is recommended to keep applications to a minimal and apply only when necessary. One should also consider cancelling any unused cards and it is advisable to keep cards that have a long history of prompt payments as this will improve your credit worthiness.

Repercussions of Poor Credit Behaviour

A bad credit reputation is usually due to consumers not repaying their debts on time, which results in your credit score dropping significantly. If you do not make full payment or are delinquent in your repayment, interests will often be charged. If there is a prolonged period of partial and late payments, you could incur a debt that may very well go out of control. Hence, you have to be very cautious with the terms of your credit application. Do take note that delinquent payment records will taint and affect your credit score. A poor credit score will discourage credit lenders from providing you with any future loans.

Furthermore, a poor credit score is a strong indication of a person's financial soundness, competence and capability. Therefore, your credit score may play a role in your approvals or rejections of not only credit applications with banks, but could possibly affect your job applications as companies are increasingly conducting employment checks on prospective hires so as to minimise any potential cases of theft and embezzlement.

In conclusion, it is never too early to start developing good credit habits and striving to reap the many advantages of having a positive credit rating. Always practice prudence with your spending, keeping track of your monthly expenses and applying for loans with the careful consideration of your repayment capabilities.

You can visit our website at www.creditbureau.com.sg to find out more about credit or follow us on our Facebook for tips on how to stay credit worthy!



In a Nutshell

PRESSURE SELLING

Have you ever found yourself in a situation where you find yourself being pressured to buy something? These are some common tactics encountered by consumers:



Prevented from Leaving

Staff blocks exit or withhold personal belongings and refuse to return until the consumer agreed to the purchase



Consumer in Disadvantaged Position

Pressure selling while consumer is partially undressed and/or stopping a treatment halfway unless the consumer agreed to the purchase



Excessive Tenacity

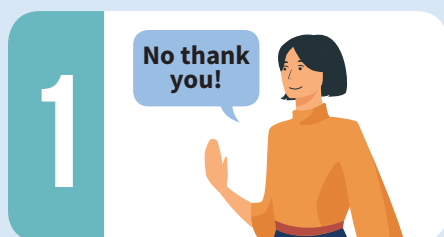
Salesperson(s) coerced and followed the consumer to the bank/ATM machine to withdraw money



Mental Exhaustion

Consumer kept in the shop for excessively long hours to pressure him/her to make a purchase

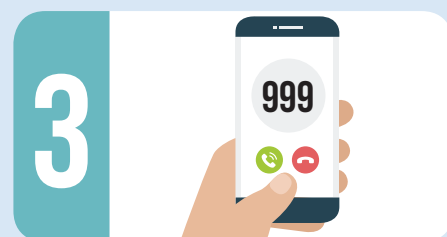
When you faced with such tactics, do not panic, and just remember these three things:



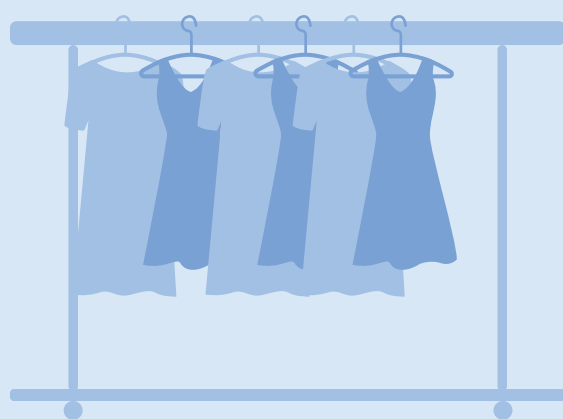
1 Politely reject



2 Grab your belongings and walk away



3 If barred from leaving, consider calling the police





4 Tips to Stay Safe when using E-Payments

Electronic payments, commonly known as e-payments, refer to cashless transactions made via electronic mediums. These transactions are completed as simply and quickly as by just tapping a card or device, or using an app, saving time for both consumers and businesses.



How do e-payments work?

Before you start using an e-payment system, you should try to understand how it works – not whether you tap a card or smartphone, or scan a QR code, but rather, whether it is a pre-paid payment service. This is so that you know if there are avenues for recourse in case of disputes, unauthorised transactions, fraud, or other scenarios.

- **Stored value:** You pre-load an account, and deductions are made from this amount when you make purchases.

You'll need to be extra careful when using this e-payment mode in some instances. For example, if you are using a pre-loaded physical card, your money is gone if you lose your card. Examples of pre-loaded physical cards commonly used are NETS CashCard and EZ-Link cards.

Even if there's no physical card, there is still a risk of losing your money, as with any pre-paid account – the service provider may go bust after collecting your money.

- **Ad-hoc:** What you have to pay is only charged at the point of transaction. Credit cards and debit cards belong to this group. So do other accounts that link to your bank account or credit card. Other examples of this kind of e-payments include Apple Pay and Android Pay, as well as PayNow.

What is SGQR?

SGQR was launched in September 2018. It is a single QR code that combines multiple e-payment solutions into one. The full list of accepted e-payment systems can be found at www.mas.gov.sg/sgqr. This means that instead of having the various different QR codes from the accepted payment merchants displayed, businesses just need to display one unified SGQR code that can be read by all the merchants.

How do I ensure my money and accounts are kept safe when using e-payments?

Personalised e-payment methods already require transaction verification before you can access your money, so they are relatively secure.

In general, looking after your money in e-payment accounts begins with practising good cyber hygiene. Much like how you wouldn't leave cash lying around in plain sight, it is important to take measures to ensure the money in your e-payment accounts does not make for easy pickings.

Here are some good cyber hygiene practices:

4 TIPS TO STAY SAFE WHEN USING E-PAYMENTS

Use e-payments with peace of mind!

Here are 4 good habits to keep your e-wallet and bank account safe from unauthorised transactions.

Turn on and monitor transaction notifications

Check emails and SMSes from your bank. This can help you detect unauthorised transactions in time!



Report unauthorised transactions to your bank as soon as you see any!

Secure your devices

- Update your devices with the latest security patches.
- Install reputable anti-virus software and update it regularly.
- Lock your device with a strong password or fingerprint.



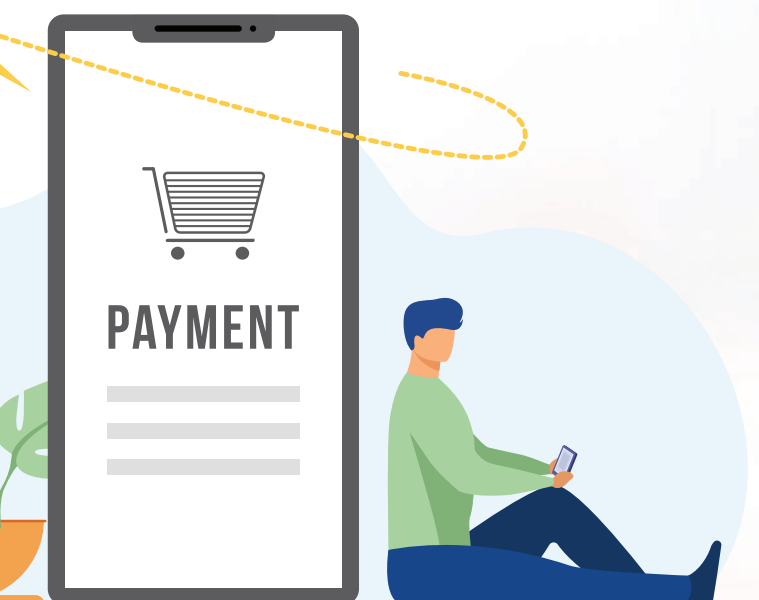
Keep your passwords secret

Never reveal your passwords or OTPs to anyone else. Your bank will never ask you for them either.

Taking measures to ensure your accounts are as safe as possible could also help limit your liability in the event of unauthorised transactions.

What should I do if I detect unauthorised transactions on my account?

You should report any unauthorised transactions to your bank or e-wallet provider as soon as possible and provide as much information as you can on any unauthorised transaction within a reasonable time. Your bank or e-wallet provider may also ask you to file a police report to facilitate the investigation process.



Beat the Bites

Which repellents are most effective at providing long-lasting protection against mosquito bites?

Nothing shuts down a balmy summer BBQ or ruins the romance of an exotic tropical holiday quicker than an army of mosquitos out for blood. And then there's the dreaded experience of waking up in the middle of the night because the buzzing from a blood-sucking bug has roused you - it's somewhere out there, just waiting for you to fall asleep before it resumes its feeding frenzy.

Which active ingredient should you look for in a mosquito repellent?

Repellents can be produced using synthetic chemicals or natural products and are available as aerosols, creams, pump sprays, wipes and wearable devices such as wrist bands. The concentration of the active ingredient in mosquito repellents determines how long it will protect you.

- The most common active ingredients used are diethyltoluamide (DEET) and picaridin.
- Both DEET and picaridin are effective at preventing bites, but picaridin is odourless and so considered to be more pleasant to use.
- Plant-derived ingredients like melaleuca oil and citronella are also sometimes used.

Are natural repellents effective?

Natural repellent sprays and roll-ons are considered a safer alternative to other mosquito repellents, but while they provide some protection, in most cases they're not as effective as chemical products that use DEET or picaridin.

Some companies also make wrist band mosquito repellents, which are a different story. When CHOICE tested mosquito repellents in the past, the wrist band they looked at was relatively useless.

Are mosquito repellents safe?

Generally, mosquito repellents are safe for adults and children over three months of age. For bubs older than three months, look for child-specific insect repellent or those that have a low concentration of DEET or picaridin (less than 10%).

Insect repellents sold in Australia must be registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). This government authority assesses products for their effectiveness and safety, and the APVMA number must be labelled on the product along with the active ingredients and their concentration.

Repellents can be produced using synthetic chemicals or natural products and are available as aerosols, creams, pump sprays, wipes and wearable devices such as wrist bands.



Need to know

- CHOICE tested 18 mosquito repellents to determine their effectiveness.
- All of them perform well, it's for how long that differs.

How the test was done

Each product is applied liberally to the forearm of a human volunteer between the wrist and the elbow. Lotion and cream formulations are then spread evenly after application. CHOICE got the lab to test each product four times. Repellency testing is conducted in cages constructed out of clear plastic for easy viewing, and fine polyester netting for ventilation. Approximately 40 unfed, five-to-ten-day-old female mosquitoes are introduced to each cage. The mosquito used is the *Aedes aegypti*, which can spread dengue fever. They assessed before applying the repellents and then at 5, 30, 60, 90, 120, 150, 240 and 360 minutes after application. During each post-application assessment, arms are exposed to caged mosquitoes for three minutes and the number of 'attempted' landings and 'successful' landings are recorded.

Aerosol vs roll-on

If the products have the same contents, they should perform similarly. The main difference they can see between a roll-on and an aerosol is that with an aerosol you can apply a lot more product in one go than with a roll-on. And coverage may be better with an aerosol.

Top tips for using mosquito repellents

- ✓ Apply it evenly to all areas of exposed skin. A spray here and there or applying repellent to your clothes or belongings isn't effective.
- ✓ Don't apply aerosols or pump sprays directly to your face – spray them onto your hands first and rub on evenly, avoiding contact with your eyes and mouth.
- ✓ Reapply frequently if you go swimming or sweat heavily.
- ✓ Don't use repellents on children under three months old. Stick to using netting on prams, cots and play areas to avoid bites.
- ✓ Consider how long you need to be protected. For a short trip outdoors a low concentration repellent will do, but if you're off on a bushwalk or fishing trip you'll need a higher-concentration repellent.
- ✓ Perfumes and dark clothes attract mosquitoes, so avoid them if possible.



		Costs		Performance										Specifications		
Recommended		Price (\$)	Price per 100g/ml (\$)	CHOICE Expert Rating (%)	5 min (%)	30 min (%)	60 min (%)	90 min (%)	120 min (%)	150 min (%)	240 min (%)	360 min (%)	Claimed Repellency (hours)	Delivery method	Size (g/mL)	
✓	Aerogard Tropical Strength Spray	7.15	98	100	99	99	99	99	99	99	98	96	6	P	150	
✓	Bug Grrr Off Natural Spray	10.99	98	99	99	98	98	98	99	99	98	97	6	S	100	
✓	Bushman 40% Deet Heavy Duty Spray	15.00	98	98	100	100	100	99	98	98	99	96	8	P	225	
✓	Bushman Plus 20% Deet With Sunscreen Spray	14.00	98	98	99	100	99	99	99	99	100	97	7	P	150	
✓	Coles Personal Insect Repellent Tropical Strength Spray	4.00	97	98	98	99	98	98	98	98	98	95	6	P	150	
	Rid Antiseptic Chamomile + Vitamin E Spray	6.99	97	98	99	99	99	99	99	99	98	93	4	P	100	
	Cancer Council Repel Sunscreen Plus Insect Repellent Lotion	10.69	96	89	94	98	95	93	98	98	98	94	2	L	110	
	Rid Tropical Strength + Antiseptic Spray	7.50	96	97	97	97	98	98	97	97	96	92	6	P	150	
	Rid Kids Antiseptic Neutral Scent Roll On	5.99	95	98	98	98	99	99	96	96	93	90	2	R	50	
	Aerogard 40% Deet Heavy Duty Highest Strength Spray	11.00	94	100	99	99	99	99	99	99	93	88	ns	P	150	
	Community Co Shoo Tropical Strength Spray	4.60	94	98	99	99	97	99	98	98	95	87	6	P	150	
	Rid Insect Repellent & Sunscreen Combo SPF50 + Lotion	11.99	93	93	99	99	97	96	98	98	93	87	4	L	100	
	Off! Tropical Strength Spray	7.30	92	95	95	97	97	97	97	97	87	86	6	P	150	
	Radius Tropical Strength Spray	4.00	21	97	96	97	98	97	93	93	92	81	6	P	150	
	Aerogard Odourless Protection Low Irritation Spray	7.15	90	97	96	96	96	95	94	94	89	82	4	P	150	
	Off! Skintastic Familycare Spray	7.21	89	95	96	97	95	95	94	94	88	79	4	P	150	
	Ego Naturals Moov Insect Repellent Spray	7.50	87	99	97	97	98	94	97	97	80	75	3	S	120	
	Thursday Plantation Walkabout Roll On	6.49	83	97	90	94	92	90	90	90	81	72	ns	R	50	

TABLE NOTES

Recommended: CHOICE recommends mosquito repellents that had a CHOICE Expert Rating of 95% or more, and that could maintain a score of 95% or more for 6 hours.

Price: As at September 2020. In AUD.

CHOICE Expert Rating: Based on repellency at different intervals, weighted as follows: 30min(5%), 60min(5%), 90min(10%), 120min(15%), 150min(15%), 240min(20%), 360min(30%). The first reading taken at 5 mins post-treatment wasn't taken into consideration in the CHOICE Expert Rating. Products performed excellently at 5 mins.

Delivery method: **P** Pressurised spray, **S** Spray pump, **L** Lotion, **R** Roll on. **ns** Not stated.

All products were made in Australia.

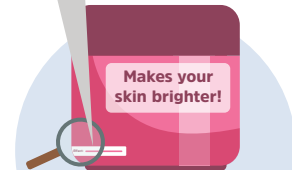
ADVERTISEMENTS INFLUENCE MANY OF OUR PURCHASING DECISIONS, BUT THEY CAN BE MISLEADING



Common types of misleading advertisement:

1 Incomplete or hidden information

*Side effect:
Can cause skin irritation
and inflammation.



2 Exaggerated features



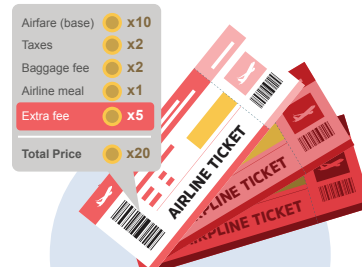
3 Unproven benefits



4 False safety or "green" claims



5 Hidden fees



CONSUMERS HAVE THE RIGHT TO ACCURATE INFORMATION ABOUT GOODS AND SERVICES THEY PURCHASE

If you notice potentially false claims about goods and services, you can:

1 Carefully check labels, reviews and price details



2 Ask for more explanation from the business



3 Alert the consumer protection agency or relevant authorities

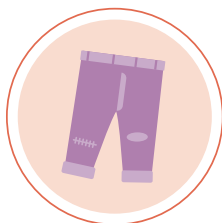


WHEN PURCHASING GOODS OR SERVICES, CONSUMERS MAY BE EXPOSED TO RISKS

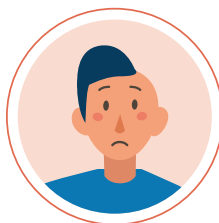


As a consumer, you could be harmed because of goods and services that are:

- 1 Different from the description



- 2 Of unacceptable quality



- 3 Unfit for purpose

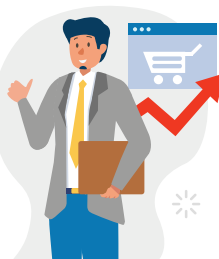


If harmed, consumers can seek **redress** (e.g. compensation) from the business:

- 1 This is one of the basic consumer rights



- 2 It keeps business behaviour in check



- 3 It should be affordable and easy to access



CONSUMERS HAVE THE RIGHT TO COMPLAIN AND GET REDRESS

As a consumer, you can file a complaint by:

- 1 Directly approaching the business



- 2 Consulting with relevant institutions or bodies(*)



(*) e.g. consumer protection agencies, sectoral authorities, consumer associations

- 3 Bringing your claim to an alternative dispute resolution body or the court



Common types of redress:

- 1 Refund



- 2 Repair



- 3 Replacement



Consumer Issues & Solutions



Dear CASE,

While shopping, I got approached by a beautician who initially asked if I would like to do eyebrow trimming at \$10. I thought it was reasonable so I agreed but things turned bad quite quickly. Within 5 mins into the trim, the staff started surrounding me and selling me other different services. Because I was halfway through the trim, I felt trap and also not wanting to upset them in fear they might purposely mess up my eyebrow, I ended up buying a facial package which I deeply regret and had no intention of getting. Are such sales tactics allowed and what can I do in the future?

Leah

Dear Leah,

Under the Consumer Protection (Fair Trading) Act (CPFTA), it is an unfair practice for a supplier to exert undue pressure or influence on a consumer to enter into a transaction. In future, say "no" and walk away if you encounter aggressive pressure sale tactics which makes you uncomfortable. Be polite but firm when stating your refusal. You can call the police if you are barred from leaving. If you start to feel overwhelmed, uneasy or intimidated during the sales pitch, request to stop the treatment session and leave the premises. Refrain from making any financial commitments.

You may also want to consider CaseTrust accredited beauty salons. These businesses offer a five-day cooling off period so you can seek a refund for unutilised services if you do not wish to proceed with the packages signed. These businesses also provide stress-free treatments as they are not allowed to engage in sales pitches during the treatment. If you are still unable to resolve your dispute, we encourage you to approach CASE for assistance (hotline: 6100 0315, website: www.case.org.sg).

We want to hear from you!

Have a story to share? Email it to editorial@case.org.sg (max. 200 words).



Dear CASE,

I approached a matchmaking agency to help set me up on some dates. However, I kept being matchmade with dates whose profiles do not correspond with what I had discussed with the agency. I feel let down as they seem to match me with whoever is available instead of my interest, which was disclosed to the agency when I first started. In addition, these dates counted towards the number of dates promised by the agency even though none of them were what I was looking for. Is there any way I can seek a refund since the agency did not find the profile of date that was initially promised?

Min Si

Dear Min Si,

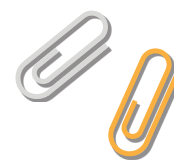
In future, when approaching a matchmaking agency, read the terms and conditions carefully and make sure you understand the details of the package/membership before committing. All verbal promises should be documented in writing. Be sure that the details of the contract are clear in relation to the number of matches agreed, the number of dates agreed and what would constitute a date. Consider shorter-termed membership options and/or one-time options for a start if this is the first time you are engaging the services of the agency. This is so that you can have a sense of the candidate profiles under the agency. However, please do be reminded that some aspects of a dating profile can be subjective and you should manage your expectations to avoid being disappointed.

You should try discussing the issue of not being paired with a date whose profile matches what you have submitted to the agency and see if there can be an amicable solution. If you are unable to resolve any disputes, you may wish to approach CASE for assistance (hotline: 6100 0315, website: www.case.org.sg).

CASEPlay!

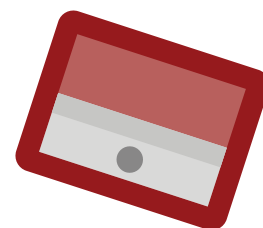
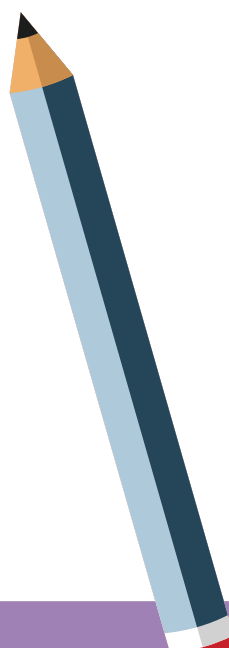
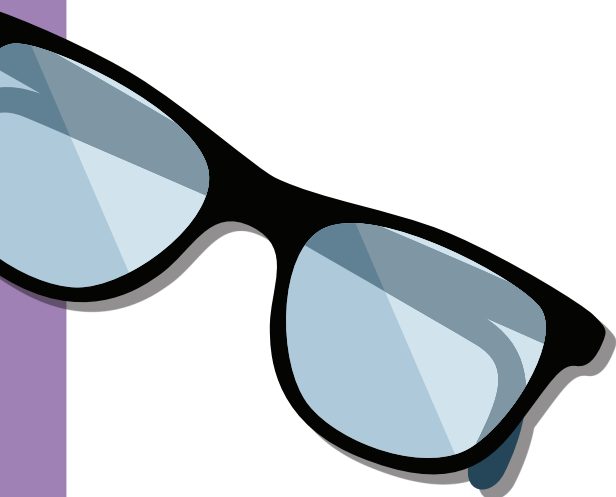
Word Search

Have fun searching for these words that can be found throughout this issue!
(Answers are provided at the bottom of this page.)



Z	L	J	I	S	S	E	L	H	S	A	C	N	R	J
B	R	R	N	G	P	A	C	Q	R	I	J	O	E	Q
N	V	R	S	K	Z	D	O	L	A	C	K	I	P	Z
T	C	C	U	F	L	O	K	P	M	L	J	T	U	D
T	N	Q	R	E	A	E	V	D	E	N	W	A	T	S
F	I	N	A	N	C	E	F	V	H	B	L	C	A	T
L	U	Q	N	S	T	G	I	O	L	S	D	I	T	W
P	R	E	C	A	U	T	I	O	N	G	I	F	I	E
S	V	W	E	M	C	E	Q	V	F	L	D	I	O	N
F	V	Q	I	E	Y	H	C	E	X	K	E	R	N	R
E	B	W	F	S	R	T	R	A	V	N	F	E	Z	T
U	K	F	E	K	E	F	N	W	S	N	E	V	D	G
C	E	N	S	E	D	N	O	Y	R	U	U	R	D	V
V	J	I	F	C	J	X	S	F	I	O	G	W	U	N
E	R	M	S	J	T	H	B	H	M	E	H	I	M	M

CASHLESS
INSURANCE
RISK
EFFECTIVE
PRECAUTION
VERIFICATION
FINANCE
REPUTATION



ANSWERS TO WORD SEARCH

Product Warranty Insurance



What should you consider when buying Product Warranty Insurance?

Period – Check to see if the manufacturer's warranty is sufficient, if any. You may need to buy extended product warranty if you need a longer period of coverage than the manufacturer's warranty.

Price – Compare the price of the extended product warranty against the retail price of the product and the cost to repair the product if it is damaged. This will help you determine if it is worth paying more for the additional protection.

Coverage – Check what is covered and what is not. It is important to understand what will cause a valid claim to be made. Is the warranty providing protection against mechanical and electrical defects only, or something more? Are certain types of damage excluded - for instance, those caused by spillage of liquids or damage to certain parts of the equipment?

Technology – Check whether the technology of the product you are buying will become obsolete at the end of the warranty period, in which case it may be better to buy a new replacement than repairing the defective good.

Is it worth the money?

At the end of the day, it depends on the coverage and price of the warranty, and the speed of technological change of the product you are buying. It is important to understand your own risk appetite and preference before deciding to sign up for that extended product warranty when you make your purchase.

What is Product Warranty Insurance?

Retailers often buy product warranty insurance to transfer to insurance companies the financial risks of offering extended product warranties. These financial risks include replacement and repair costs of products sold that have failed to perform their intended functions within a specified time period.

How is Product Warranty Insurance sold?

This question can be answered using an example:

A retailer selling washing machines may offer extended product warranties to its customers at an additional cost at the point of sale.

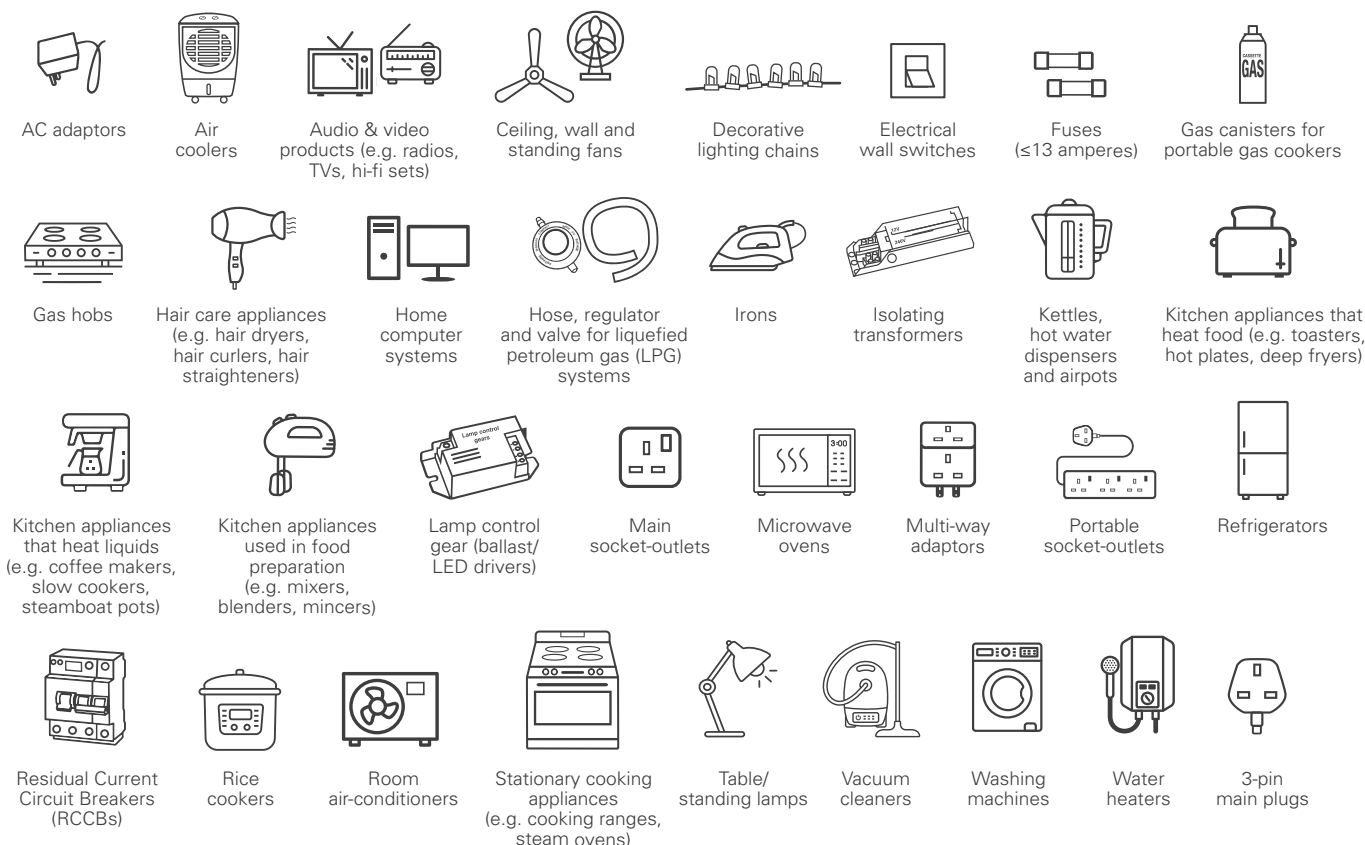
Such extended product warranties are often product warranty insurance underwritten by the retailer's partner insurer, but branded under the retailer's brand name.

This is often in addition to the manufacturer's warranty of the product sold. In these instances, extended product warranties usually extend the coverage over a longer period, introduce more coverage features, or both.



KEEP YOUR FAMILY SAFE FROM INJURY WITH THE SAFETY MARK

Household appliances carrying the SAFETY Mark are designed to protect you and your family from dangers such as **electric shocks, fires and explosion**. Look out for the SAFETY Mark when purchasing the following household electrical and gas appliances.



Safety considerations when shopping online

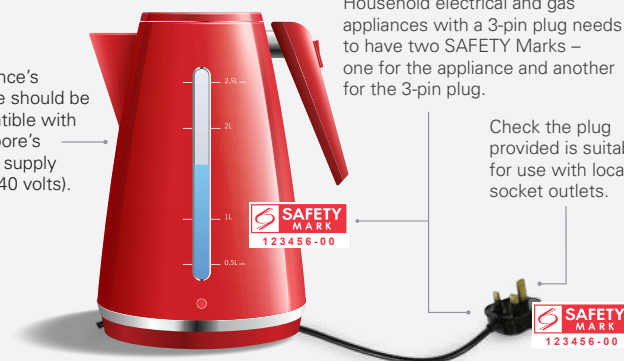
When buying household electrical and gas appliances from overseas retailers, technical specifications printed on the packaging may not be shown on the product page. Always contact the seller to ensure that it comes with plugs and voltages that are suitable for use locally.

Note: Local service centres rarely provide servicing/warranty for products purchased overseas, even if servicing/warranty is available for the same model sold locally.

Appliance's voltage should be compatible with Singapore's power supply (220-240 volts).

Household electrical and gas appliances with a 3-pin plug needs to have two SAFETY Marks – one for the appliance and another for the 3-pin plug.

Check the plug provided is suitable for use with local socket outlets.



For more information on home appliances requiring the SAFETY Mark:

www.enterprisesg.gov.sg/safety-tips



**Enterprise
Singapore**

代糖安全吗？

By 朱槿梵（消基会编辑委员会委员暨分子生物专业人员）

想吃甜食又怕胖，为了迎合消费者，添加俗称代糖的甜味剂成了食品加工的主流。但是，这些标榜低卡／零卡的零食饮料，使用的是哪些甜味剂，您可曾仔细检视过？本文介绍甜味剂的种类及其特性，作为消费者选购相关食品时的参考。



糖醇是甜味剂中最安全的一类

可食用并提供甜味的物质很多，例如常见的蔗糖、果糖、麦芽糖、葡萄糖等。这些「糖」被长期食用，而且是重要的营养素，所以属于食品原料。「甜味剂」则是那些赋予食品甜味的添加剂；若按照化学结构来看，可分为糖类及非糖类的甜味剂。前者像是糖醇，后者再根据来源又分为天然和人造甜味剂，台湾目前允许使用的甜味剂共26种，如表1所示。

表1、台湾允许使用的甜味剂（未列出十分相似的品项）

名称	英文	甜度	热量 (kcal/g)	限量 (g/kg)
糖类甜味剂				
山梨醇	Sorbitol	0.5	2	无
木糖醇	Xylitol	1.1	2	无
甘露醇	Mannitol	0.6	2	无
麦芽糖醇	Maltitol	0.8	2	无
异麦芽酮糖醇	Isomalt	0.5	2	无
乳糖醇	Lactitol	0.4	2	无
赤藻糖醇	Erythritol	0.6	0	无
天然非糖类甜味剂				
甜菊糖苷	Steviol Glycosides	300	0	无
罗汉果糖苷萃取物	Mogroside Extract	150	-	无
甘草萃	Licorice Extracts	100	-	无
甘草素	Glycyrrhizin	50	0	无
甘草酸钠	Trisodium Glycyrrhizinate	200	0	无
甘草酸铵	Ammoniated Glycyrrhizin	50	0	无
人造非糖类甜味剂				
糖精	Saccharin	400	0	0.2~2
环己基磺酰胺酸盐	Cyclamate	40	0	0.2~1.25
阿斯巴甜	Aspartame	200	4	无
醋磺内酯钾	Acesulfame Potassium	200	0	无
索马甜	Thaumatococin	2500	0	无
蔗糖素	Sucralose	600	4	无
纽甜	Neotame	10000	0	无

注：甜度的基础物质是蔗糖，把蔗糖的甜度定为1，可得到其他甜味剂的相对甜度。

糖醇如山梨醇、木糖醇、甘露醇等又叫作多元醇，其结构类似碳水化合物，最初来自于植物，每公克含有0~2大卡的热量，低于蔗糖的4大卡，甜度一般也低于蔗糖。虽然糖醇能够在体内被代谢，但是不影响血糖及胰岛素的水平（注1）。此外，糖醇无法被牙齿里的微生物利用，所以没有致龋性。对于这类的甜味剂，各国均未订定「每日容许摄取量」（ADI），亦即人们可以不必担心它们的安全性。

尽管糖醇被视为无害，不过如果大量吃下，还是可能造成胃肠胀气及渗透性腹泻。因此欧盟规定，糖醇含量超过10%的食品必须标示「若过量食用可能导致腹泻」的警语。整体来说，身体对赤藻糖醇和麦芽糖醇的耐受性良好，每日限量100公克；对山梨醇、木糖醇和异麦芽酮糖醇的限量略低，约50公克；而吃下20~50公克的乳糖醇，便会引起不适；耐受性最差的是甘露醇，每日摄取20公克将导致腹部症状。

天然非糖类甜味剂正进入市场

糖让人又爱又恨，多年来龋齿、肥胖和糖尿病等，都被认为与饮食、尤其是蔗糖或果糖的摄取过多有密切关联。为了减少糖量、但仍能提供甜味，愈来愈多的食品使用蔗糖替代物，厂商将目光集中在甜度强、热量低、安全性较高、不易引起蛀牙的非糖类甜味剂上，也就是俗称的「代糖」。例如美国流行阿斯巴甜，欧洲以醋磺内酯钾为主，日本则对天然的甜菊糖苷感兴趣。

甜菊糖苷是从甜叶菊（*Stevia rebaudiana*）里提炼出来的成分，中南美洲当地人使用甜叶菊作为药草及食物甜味剂已有数百年的历史。早些时候许多别的国家曾怀疑它会危害健康，但现在联合国粮农组织与世卫组织已经评估为安全，并针对甜菊糖苷订下每日每公斤体重可摄取0~4毫克（注2），目前欧盟、美国、日本、中国大陆和台湾等都允许它作为甜味剂。

下面两种台湾允许使用的甜味剂则未被欧美国家普遍接受！

糕点添加些罗汉果在中国饮食文化已有千年历史，罗汉果糖苷是以罗汉果（*Siraitia grosvenorii*）为原料，透过萃取、浓缩而得，是中国大陆首先批准的药食两用物质之一。美国是在2010年批准作为甜味剂，属于「一般认为安全」（GRAS）的食品添加剂。台湾参考美国及日本的相关规范，自2019年予以增列。不过欧洲食品安全局考虑罗汉果糖苷在遗传毒性、生殖毒性等方面的研究并不完整（注3），目前尚未批准使用。

甘草萃一类的物质最初来源于甘草（*Glycyrrhiza glabra*）的根茎，它是一种常见的传统中药材。在欧盟和美国，它们用于烟草、糖果或饮品里当香料，但并非作为甜味剂。日本虽允许作为甜味剂，不过自从发现其药理副作用之后，已限制每日的摄取量为200毫克。相比之下，台湾对甘草萃一类的管理太宽松，既无限量要求、也无须加注警语！

甘草萃一类物质能影响肾脏中的皮质醇降解酶，会干扰水和矿物质的调节，于是血压升高、肌肉无力及水肿形成等症状变得明显。甚至孕妇吃下过多甘草，也被怀疑与婴儿早产及出生体重偏低之间有关联（注4）。尽管世卫组织和欧洲食品安全局认为，每日摄取100毫克是安全的，但建议孕妇、高血压患者要小心。根据欧盟食品信息条例，甘草素或甘草酸铵等含量超过100 mg/kg或10 mg/l的糖果或饮品必须标示「含有甘草」，若糖果含有更高浓度（大于4,000 mg/kg）的甘草素或甘草酸铵等，则必须标示「含有甘草——高血压患者应避免过量食用本产品」。

人造非糖类甜味剂逐渐被接受

根据2017年美国的报导，当地74%的包装食品和饮料里含有甜味剂，那么这些人造甜味剂是否安全呢？早期若干的研究显示，糖精和环己基磺酰胺酸盐会导致实验动物罹患膀胱癌，然而进一步的调查已排除这样的疑虑。不过，遗传性疾病苯酮尿症患者由于身体无法有效分解苯丙胺酸，还是必须避免阿斯巴甜，故相关食品应加注警语。

为保证甜味剂的使用安全，联合国粮农组织与世卫组织的联合专家委员会（JECFA）对各种甜味剂进行代谢途径及毒性实验——包括急性、亚慢性、慢性毒性、致癌性、致突变性、发育毒性、生殖毒性等的研究，直至作出全面的安全评估之后才核准使用。并据此提出每日容许摄取量，亦即每日每公斤体重的最高摄取限制，如表2所示（注5）。只要按照该标准正常食用甜味剂，应该就不会危害健康。可惜相比之下，台湾未予以严格规范！



表2、JECFA允许使用的甜味剂（未列出十分相似的品项）

名称	限量（毫克）	名称	限量（毫克）
糖类甜味剂		非糖类甜味剂（代糖）	
山梨醇	无	糖精	0~5
木糖醇	无	环己基磺酞胺酸盐	0~11
甘露醇	无	阿斯巴甜	0~40
乳糖醇	无	醋磺内酯钾	0~15
麦芽糖醇	无	索马甜	无
异麦芽酮糖醇	无	蔗糖素	0~15
赤藻糖醇	无	纽甜	0~2
以下项目台湾未允许		甜菊糖苷	0~4
塔格糖（Tagatose）	无	以下项目台湾未允许	
淀粉糖醇糖浆（Polyglycitol Syrup）	无	爱德万甜（Advantame）	0~5
海藻糖（Trehalose）	无	阿力甜（Alitame）	0~1

注：此处的限量是指每日每公斤体重的最高摄取量，有别于台湾使用每公斤食品的添加量。

许多消费者认为，人造的不如天然的安全，因此从植物中萃取的代糖愈来愈受到市场欢迎。有报告显示，4成受访者觉得要避免糖精或阿斯巴甜等甜味剂，含人造代糖的食品销售量也出现些微下跌。不过前面曾叙述，罗汉果糖苷的毒性研究尚不完整，甘草甚至被找出药理副作用。事实上，天然甜味剂未必比人造的更安全！

代糖能够减少肥胖和糖尿病吗？

非糖类甜味剂又称为非营养性或高甜度代糖，其甜度很高、用量极少、热量值微小，完全区别于传统糖类。甜味剂经常在干果、甜点和饮料里代替糖类，许多有甜味、却标榜「无糖」、「零卡」或「零热量」的食品可能添加。它们针对的族群主要是怕胖的人、糖尿病患者、以及为了牙齿保健者。代糖的潜在好处有：

- » 降低热量摄取
- » 满足对甜食的渴望
- » 不会升高血糖值
- » 减少蛀牙的风险

潜在风险为：

- » 可能不知不觉中过量吃下
- » 可能促进对甜食的渴望
- » 可能影响葡萄糖耐受
- » 可能导致某些人头痛

先来听听美国哈佛医学院的看法（注6）：「当消耗量正常时，甜味剂确实是安全的。尽管非营养性代糖的卡路里为零，但可能无法有效地降低总热量摄取，因此对减轻体重、降低糖尿病风险鲜少帮助。某些人之所以选择无糖饮料，是想合理化吃下不健康的食物，而代糖过度的甜味将导致身体渴望更多的甜食。人们当然可以安全地食用适量的减肥饮料，但这样可能不是最健康的选择！」

再参考7项随机对照临床试验（1,003名参与者，中位数为6个月）和30项队列研究（40万5,907名参与者，中位数为10年）的结果：前者并未明确支持代糖对体重控制的预期好处；反之，后者的观察数据显示，长期食用代糖与肥胖、高血压、代谢综合症、第二型糖尿病、中风及心血管疾病的风险更高有关（注7）。虽然这些关联还需要临床试验的证实，但起码代糖显然无助于对抗肥胖和糖尿病等。

此外，2014年的一篇论文指出，代糖会扰乱肠道菌群。不过进一步的调查（注8）发现：「一些用糖精进行的动物实验报告了肠道菌群的变化，它们主要是在高剂量下，与人类的正常消耗量无关。该研究及其他研究表明，代糖对肠道菌群有影响，但没有对人体健康实际不利影响的证据。饮食变化可能是改变肠道菌群和数量的主要决定因素，而非代糖。」

这篇论文最后还重申，代糖在目前的限量水平内是安全的。当然啦，指的是JECFA、欧盟及国际主要的食品卫生监管机构所允许使用的甜味剂和限量标准，并未包括甘草萃一类物质，也不是我们「可于各类食品中视实际需要适量使用」的宽松标准！

注：

1. 奥地利营养学会，2019年，「 Süßungsmittel 」： <https://www.oerge.at/index.php/bildung-information/ernaehrung-von-a-z/1784-suessstoffe>
2. 香港食物安全中心，2017年，「 食物中的甜菊醇糖苷 」： https://www.cfs.gov.hk/tc_chi/programme/programme_rafs/programme_rafs_fa_02_04.html
3. 欧洲食品安全局，2019年，「 Safety of use of Monk fruit extract as a food additive in different food categories 」： <https://efsa.onlinelibrary.wiley.com/doi/full/10.2903/j.efsa.2019.5921>
4. 德国巴伐利亚州健康暨食品安全局，2019年，「 Die Süßholzpflanze 」： <https://www.lgl.bayern.de/lebensmittel/chemie/inhaltsstoffe/pflanzeninhaltsstoffe/suessholzpflanze.htm>
5. 粮农组织与世卫组织食品添加剂联合专家委员会，2019年，「 Sweetener 」： <https://apps.who.int/food-additives-contaminants-jecfa-database/search.aspx?fc=66>
6. 美国哈佛医学院，2016年，「 Are artificial sweeteners safe? 」： <https://www.health.harvard.edu/staying-healthy/ask-the-doctor-are-artificial-sweeteners-safe>
7. Azad et al.: Nonnutritive sweeteners and cardiometabolic health: a systematic review and meta-analysis of randomized controlled trials and prospective cohort studies. CMAJ. 2017; 189(28): E929-E939.
8. Lobach et al.: Assessing the in vivo data on low/no-calorie sweeteners and the gut microbiota. Food Chem Toxicol. 2019; 124: 385-399.

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