



# Responsible Packaging Management Association of Southern Africa

## Essential Information for Exporters Dangerous Goods and Chemical Products.

### SOLAS VGM, CTU Packing COP & IMDG

**ICHCA**  
INTERNATIONAL

**EXIS**  
TECHNOLOGIES

CDI



**Liz Anderson**  
16 October, Durban ICC





# RPMASA



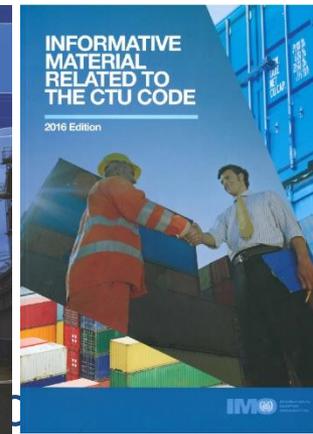
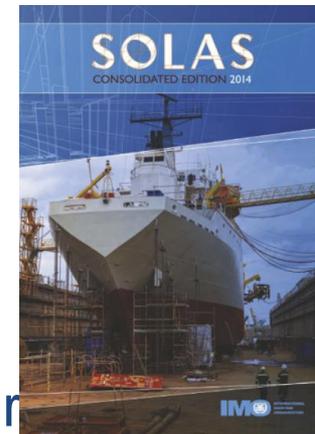
## Information for Exporters – Do you know the Regulations & have your people been Trained?

Over the past few years there has been an increase in accidents and incidents at sea, fires & damaged containers non-compliances of containers received in foreign Ports lost containers thought to be the cause of lost small craft

This has prompted more stringent checks in destination Ports with findings in the USA and EU of **approx 50% non-compliances** including mis-declarations leading to impounding of cargo & penalties!

This gives our region a bad name + is expensive

Shipping lines **Happag Lloyd** and **Maersk** recently announced to change shippers behaviour with a \$15 000 penalty/container for any found to be mis-declared





# RPMASA



## Information for Exporters –

### What Regulations apply & who are the Regulators?

Most exports are by sea – Regulators are National Depts of Transport, Maritime & the IMO + in SA - SAMSA

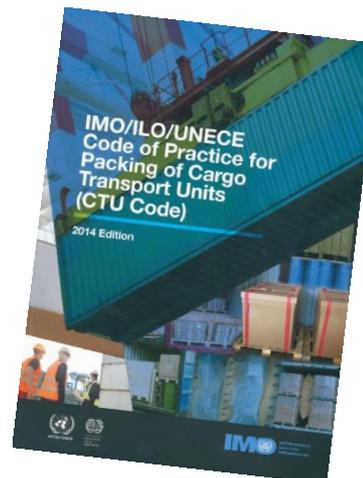
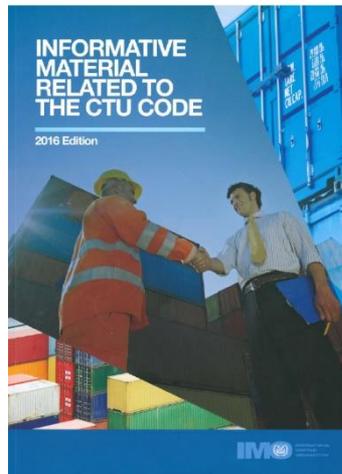
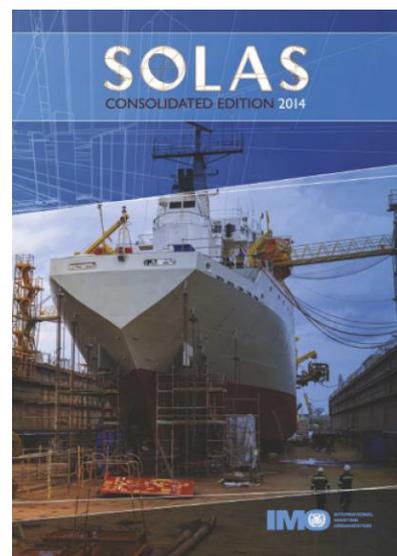
Applicable regulations for sea Transport include -

- **VGM & CTU Packing** Code of Practice apply to **ALL** cargo

VGM - Verified Gross Mass falls under **SOLAS**, Safety of Life at Sea

**MARPOL** and **IMDG** for **Dangerous Goods + Container**

**Safety Code**

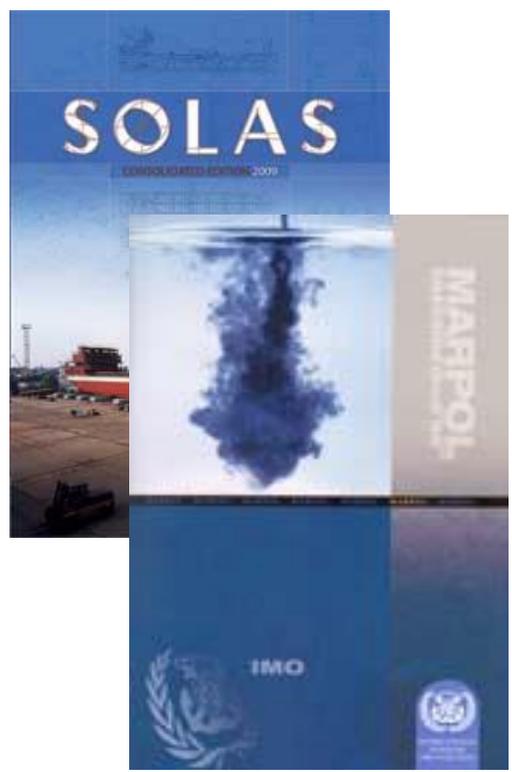




# IMO – Conventions



Regulated in SA by the  
Dept Transport Maritime +  
SA Maritime Safety Authority



## Convention for the Safety of Life at Sea

### MARPOL

International Convention for the Prevention of  
Marine Pollution from Ships



# Who / what is RPMASA

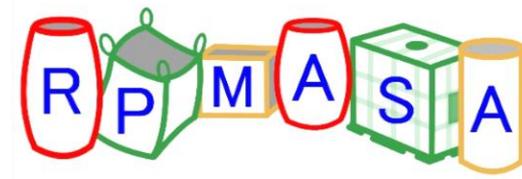


**RPMASA is the leading Organisation in Southern Africa for Dangerous Goods Classification, Packaging & supply chain. It is**

- an NPO, providing a focal point for those in Supply Chain of Industrial & Retail products
- the **only Trade Association from Africa** with a seat on the UN Committee of Experts for Transport of Dangerous Goods and the GHS
- active participant in National Regulations & Standards

**Main focus areas - Technical and Regulatory requirements for Risk reduction, providing Members & Industry with:**

- 👍 Opportunity to participate in International Transport Modal Regulations
- 👍 A voice to Government,
- 👍 Information and updates on Regulations & Standards
- 👍 Training & Audit for Members, for Classification, selection legal packaging, use, handling, labelling, transport,
- 👍 Consumer Awareness re hazards





# RPMASA Partners



## RPMASA has MOU's with International NPO's

- **ICHCA** International Cargo Handling Cooperation Assn.
- **CDI** Chemical Distribution Institute

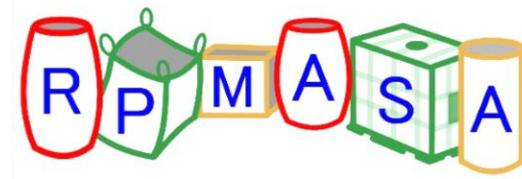
**both** participate in various IMO - **International Maritime Organisation** regulatory processes for **non-dangerous goods**

**ICHCA** is global, it has Chapters in Japan, Australia and N Africa + we hope to launch an ICHCA chapter in Durban next year

**The CDI** provides Training globally for International Assessors who implement the CDI Audit & Assessment Schemes for Maritime – Ships & Bulk Terminals

IMPCAS – International Maritime Packed Goods for  
Shipping Agents  
Freight Forwarders  
Tank Stations  
Freight Stations  
Port Terminals for packed goods

Providing our Industry opportunity to Benchmark + improve Safety Efficiency & Compliance





# RPMASA Partners



## RPMASA has agreements with other International bodies

- **Exis Technologies** who provide eLearning Training approved by the IMO - **International Maritime Organisation** to assist organisations with their Training obligations in terms of

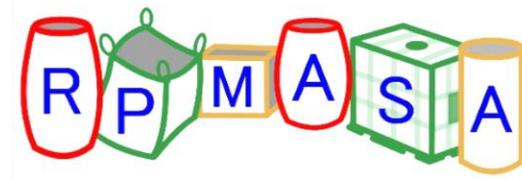
CTU Packing

SOLAS VGM – Verified Gross Mass

IMDG Training – various modules for Management and Supervisors, and Specific Job category as per CH 1.3 of the IMDG as well as Hazcheck App for mobile phones

<https://existec.com/solutions.aspx>

- **Hibiscus GHS software and Printing solutions** is for Industry solutions to assist with GHS Classification, producing Safety Data Sheets in various languages, and print GHS compliant product Labels [www.hibiscus-plc.co.uk](http://www.hibiscus-plc.co.uk)





# Management of Dangerous Goods



## What are Dangerous Goods and Hazardous Substances?

The Term Dangerous Goods encompasses

- ✓ Chemicals that by their physical nature can pose **Risks** in storage, handling and transport and have the potential to cause harm to persons, property and/or the environment
- ✓ Dangerous Articles which pose **Risks** if not handled, stored or transported correctly, thus have the potential to cause harm to people, property and/or the environment e.g. batteries & articles containing them
- ✓ All have UN number which must be clearly marked on for Transport

**Hazardous Substances are chemical products for retail**

**Global Regulations** are in place to address and minimise the identified Risks to *protect people* in the Supply Chain.

- ✓ NB You can't manage what you don't know!

**Understanding Classification and Regulations is essential to Product Stewardship and Excellence in the Supply Chain.**





# Transport Pictograms

## 9 Classes Dangerous Goods



Size is regulated - Minimum on Packaging is 100 x 100 mm, so as to be visible from a distance in case of accident and 250 x 250mm on a vehicle or Shipping Container



# Management of Dangerous Goods



## What are *Dangerous Goods*?

- ✓ Chemicals AND Articles whether Industrial or retail
- ✓ Chemical substances & mixtures which have potential to do harm & have a UN number, whether Industrial or Retail
- ✓ Substances & Products which contain chemicals
- ✓ Articles such as batteries and conveyances containing them that may be shipped (transported) e.g. Wheelchairs & eBikes
- ✓ Articles and products that could cause harm if handled incorrectly during transport e.g. gas cylinders, fireworks, confetti shooters, air bags, machinery containing fuels

**ALL are classified & regulated for safe transport**

**Hazardous chemicals** in addition have the potential to cause Health or environmental hazards in use whether in the home or workplace and are now Classified using the new UN GHS, now in Regulations in most of the world.

**The Globally Harmonised System of Classification & Labelling of chemicals – it is essential to understand this and apply to SDS & Product labels for export**





# New to SA – GHS



GHS Pictograms and Hazard Classes		
<ul style="list-style-type: none"> <li>Oxidizers</li> </ul>	<ul style="list-style-type: none"> <li>Flammables</li> <li>Self-reactives</li> <li>Pyrophorics</li> <li>Self-heating</li> <li>Emits flammable gas</li> <li>Organic peroxides</li> </ul>	<ul style="list-style-type: none"> <li>Explosives (1.1-1.4)</li> <li>Self-reactives</li> <li>Organic peroxides</li> </ul>
<ul style="list-style-type: none"> <li>Acute toxicity (severe)</li> </ul>	<ul style="list-style-type: none"> <li>Corrosive to metals</li> <li>Skin corrosion</li> <li>Serious eye damage</li> </ul>	<ul style="list-style-type: none"> <li>Gases under pressure</li> </ul>
<ul style="list-style-type: none"> <li>Carcinogenicity</li> <li>Respiratory sensitization</li> <li>Toxic to reproduction</li> <li>Specific target organ toxicity (repeated)</li> <li>Germ cell mutagenicity</li> <li>Aspiration hazard</li> </ul>	<ul style="list-style-type: none"> <li>Aquatic toxicity (acute)</li> <li>Aquatic toxicity (chronic)</li> </ul>	<ul style="list-style-type: none"> <li>Acute toxicity (harmful)</li> <li>Skin/eye irritation</li> <li>Skin sensitization</li> <li>Specific target organ toxicity (single)</li> <li>Hazardous to the ozone layer</li> </ul>

GHS Pictograms,  
essential for exporters  
to understand & apply

9 Symbols represent  
17 Physical Hazards  
10 Health Hazards  
2 Environmental  
Hazards





# Legal Framework for Transport of Dangerous Goods starts at the UN



**1956** UN Committee of Experts for Transport of Dangerous Goods - TDG was formed and published the first version of the Recommendations for Transport of Dangerous Goods – these were update regularly and evolved over the years.

**1996** the first version of the Model Regulations for TDG was adopted & annexed to the 10<sup>th</sup> - revision of the Recommendations for TDG known as the UN Orange Books, with - Regulations for packaging, including test and certification, transport and documentation

Purpose – to prevent accidents harm to persons, property or damage to the environment

**1999/65** ECOSOC extended the mandate to develop the GHS

UN Sub-Committee of Experts for GHS was formed, adding Health & Environment Hazards to Transport **Physical Safety**

**2003** UN GHS Purple Book was published adding health hazards





# Management of Dangerous Goods



## *Principles underlying the regulation of Transport of Dangerous Goods*

- Dangerous Goods are regulated to prevent accidents to persons, property or damage to the environment, **except for those TOO dangerous to Transport!**
- Regulations shall NOT impede the movement of goods, except those too dangerous to Transport
- The UN Model Regulations are applicable to ALL modes of transport
- Classification is by Physical Risk, **9 Classes, Class 9 Miscellaneous and Environmentally Hazardous**
- Numerical order of Classification does not denote the order of Risk
- Definitions, Classes and DGL give Guidance for Global application & understanding
- UN Manual of Tests and Criteria - provides Test Methods, Procedure & Criteria to Classify in a consistent way
- Waste should be transported under the appropriate Class, or Class 9
- Many substances in Classes 1 – 8 are also Dangerous to Environment
- Many consignments under fumigation can pose risk to workers opening the Container – understand the labelling requirements





# Management of Dangerous Goods



## Purpose of Dangerous Goods & GHS Legislation?

To Provide a Systematic and Consistent way to -

- Classify
- Package and Label
- Seamlessly Transport in all modes – Road, Rail, Sea & Air
- Provide documentation
- Communicate potential hazards to all who may use them

Which is used and understood everywhere in the world

👍 **Compliant packaging is key to safety in Transport and Supply Chain**

What is Non Negotiable – Training & COMPLIANCE

**The COST of non-compliance is too great !**





# Alert - Ships Fires are on the increase, why?



Loss of knowledge, poor Training, incorrect classification, non-compliant packaging, poor packing & securing in the containers AND mis-declarations





A major vessel fire is reported every 30 days  
WHY?





# RPMASA



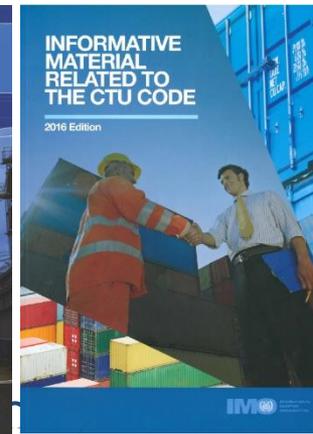
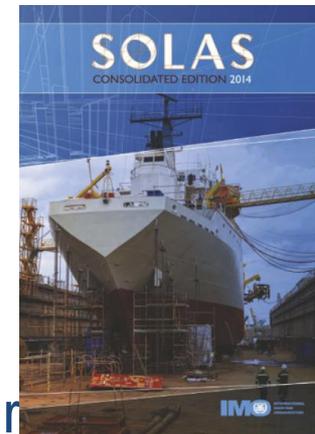
## Information for Exporters – What Regulations apply & who are the Regulators?

Over the past few years there has been an increase in  
accidents and incidents at sea, fires & damaged containers  
non-compliances of containers received in foreign Ports  
lost containers thought to be the cause of lost small craft

This has prompted more stringent checks in destination Ports with  
findings in the USA and EU of **approx 50% non-compliances** including mis-declarations  
leading to impounding of cargo & penalties!

This gives our region a bad name + is expensive

Shipping lines Hapag Lloyd and Maersk  
recently announced to change shippers behaviour  
a \$15 000 /container penalty for any found to  
be mis-declared





Could your cargo cause this?  
Who is responsible?





# Dangerous Goods Management



RPMASA - active NGO Participation at UN level, giving Industry an opportunity to input & Influence Regulations  
Our International Partners ICHCA & CDI also participate in SOLAS, CSC + other non-Dangerous goods



[www.ichca.com](http://www.ichca.com)

[www.cdi.org.uk](http://www.cdi.org.uk)

**ICHCA**  
INTERNATIONAL

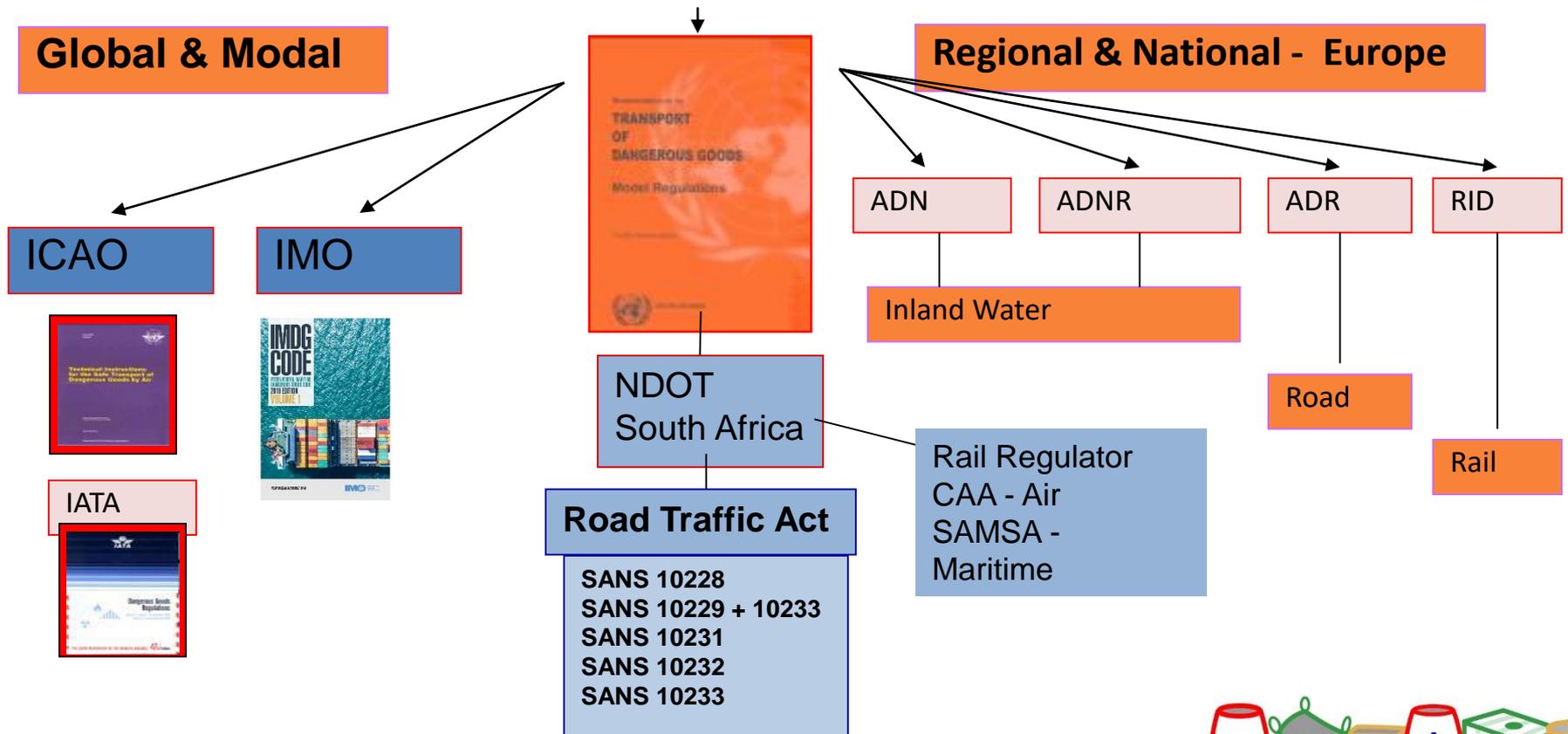




# United Nations Committee of Experts



UN Sub Committee for Transport of Dangerous Goods provides a Framework for all Transport Modes

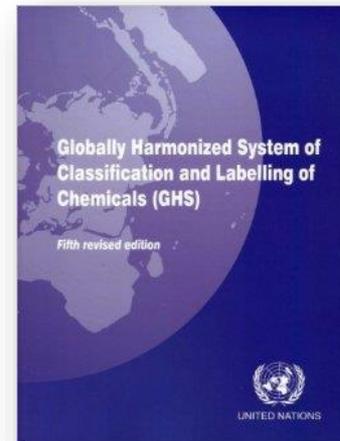
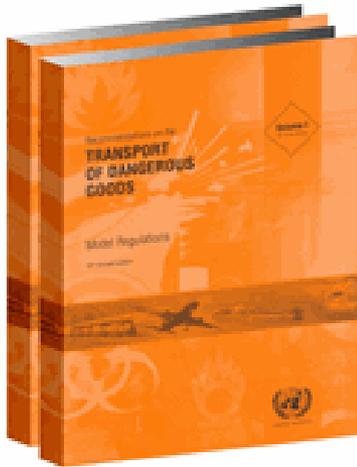




# Management of Dangerous Goods



UN revisions 2 yearly – 2017, 20<sup>th</sup> revn TDG & 7<sup>th</sup> revision Globally Harmonised System published and came into effect 1 **January 2019**



21<sup>st</sup> Revn. TDG + 8<sup>th</sup> Revn. GHS published in June 2019, **came fully into effect 1 January 2021 – 2year phase-in for Industry**  
UN TDG changes mainly arise from new Technologies, or results of experience from incidents and accidents  
UN GHS criteria are still being developed and refined

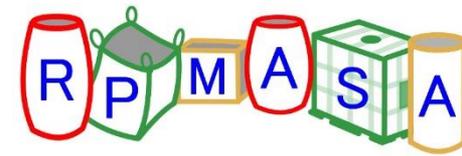




Mis-declared or incorrectly stowed & secured goods can be dangerous too!



Why take such risks!!





# Magnitude of forces The Sea can be wild



Don't let your consignments, be the  
cause of an incident





# CTU Packing



Collapse of containers in stacks and on-board can have serious impacts, whether dangerous goods or not, non-compliant packaging or container packing – this needs behaviour change!

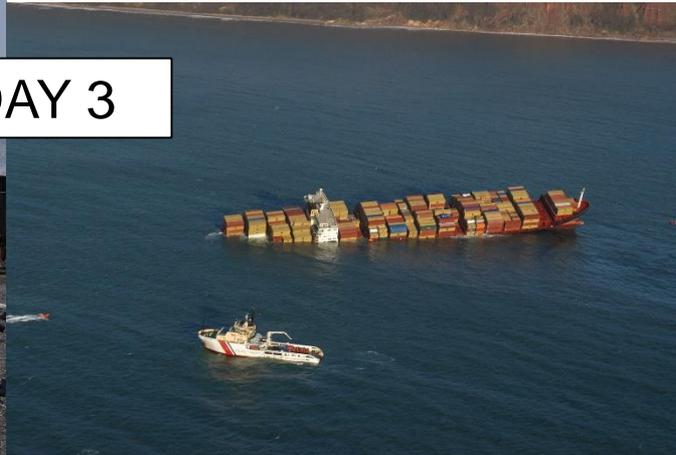




# Incident Prevention



Incident  
MSC Napoli January 2007  
Europe to South Africa  
Beached in Southern England



# Napoli Cargo

Frozen Ducks

Frozen Octopus

Dyes

Chocolate

Bisphenol

Car Parts

Coffee

Car Engines

Vodka

Naphtha

Wine

Khosa Bibles

Paints

Methyl Bromide

Perfume

Shampoo

Personal Goods

Fertilizer

Explosives

Ethanol

Glyphosate Weedkiller

Fluorocarbons

Pesticides

Nickel anodes

...much, much more!



# Incident Prevention



Incidents from Storm damage -  
MSC Chloe lost 13 Containers  
August 7, 2018 Durban Harbour  
MSC Zoe loses nearly 200  
containers near Dutch islands in  
Storm 2 Jan 2019





# Why do we need Global Regulations?



To prevent multi-modal accidents & incidents at home and in export, like this. NB most incidents are a result of non-compliance at source when packing or loading!





Like this !!



Fire as result of defective Lithium batteries





# RPMASA



**Bad Practices and non – compliance leads to these!**



**ICHCA**  
INTERNATIONAL

CDI





Accidents at sea are usually caused by non-compliance many Kms. inland !!

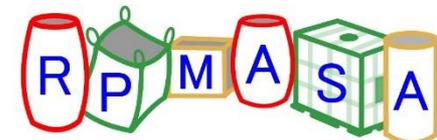


**HYUNDAI  
FORTUNE  
March 20, 2006  
Off coast of Yemen**





# Jolly Rubino St. Lucia September 2002





**PACK IT IN!**

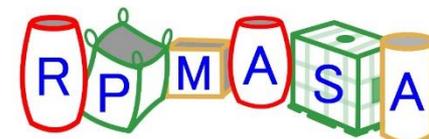


© REX/HAP/Quirky China News





# Durban -Sea Elegance on fire at anchorage the 11<sup>TH</sup> October 2003





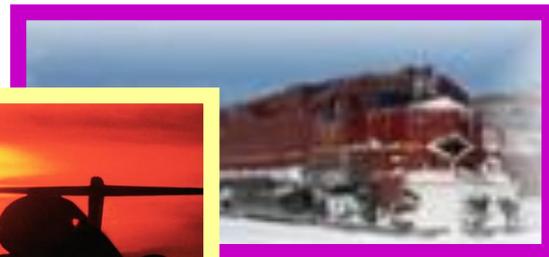
# UN Model Regulations for Dangerous Goods



## What is regulated?

- ✓ Training & Security requirements
- ✓ Packaging - the starting point for safe transport
- ✓ Construction, Test, Certification and Marking of Packaging
- ✓ Labelling – consistent Hazard Communication
- ✓ Documentation – clear, concise Communication
- ✓ Consignment & Operational Procedures

Consistent across ALL Transport modes - Road, Sea, Air & Rail





# Modes of Transport are getting larger,

# Compliance is essential to Safety!



To transport the 19,224 TEU capacity of the MSC Oscar you would need:





# RPMASA



## What is the IMDG Code?

IMO Code of Practice for Dangerous Goods  
Based on the UN Model Regulations for DG  
For Safe Transport of Dangerous Goods by Sea  
NOT NEW - revised 2 yearly, covers all aspects from  
packaging & labeling to Stowage, Training &  
Security

NB Training required for ALL Shore side staff since 2010  
detailed in Chapter 1.3 of the Code + CTU Packing

Amdt. 38-16 Came into effect January 2019



Packaged Chemicals by Sea:  
**Risk Mitigation**



**Do it right first time!  
Know the Regulations  
Do your Risk  
Assessments  
thoroughly,  
Ensure staff are  
Trained  
If in doubt - get expert  
Audit & advice**

[www.rpmasa.org.za](http://www.rpmasa.org.za)  
[www.exis.co.uk](http://www.exis.co.uk)  
[www.ichca.com](http://www.ichca.com)  
[www.cdi.org.uk](http://www.cdi.org.uk)





# Responsible Packaging Management Association of Southern Africa

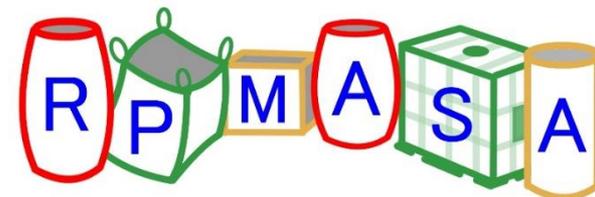
## Introduction and Overview

SOLAS VGM

CTU Packing COP

IMDG

What & Why?





# RPMASA



**What is the CTU Packing COP?**

**ILO/IMO/UNECE Code of Practice**

**For safe securing of CTU contents**

**NOT NEW - revised to prevent incidents & accidents**

**Came into effect November 2015**

**ICHCA**  
INTERNATIONAL





# RPMASA



## How much of Global Trade is Containerised ?

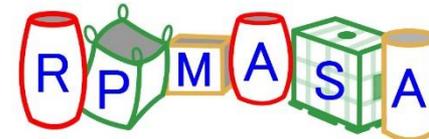


**60%**

Hundreds of thousands  
of containers pass  
through global Ports daily

**ICHCA**  
INTERNATIONAL

CDI





# RPMASA



## Why do we need CTU Packing Regulations?



**ICHCA**  
INTERNATIONAL





# RPMASA

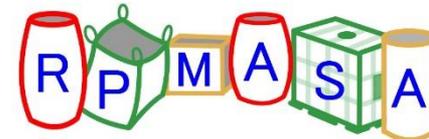


## Why do we need CTU Packing & VGM Regulations?



**ICHCA**  
INTERNATIONAL

CDI







# RPMASA



## Why do we need CTU Packing & VGM Regulations?



# Ports are busy places



They rely on Industry to comply!



# RPMASA



## Why do we need CTU Packing & VGM Regulations?



**ICHCA**  
INTERNATIONAL

CDI





# RPMASA



RPMASA as an active NGO - Incidents we try help to prevent!



**ICHCA**  
INTERNATIONAL

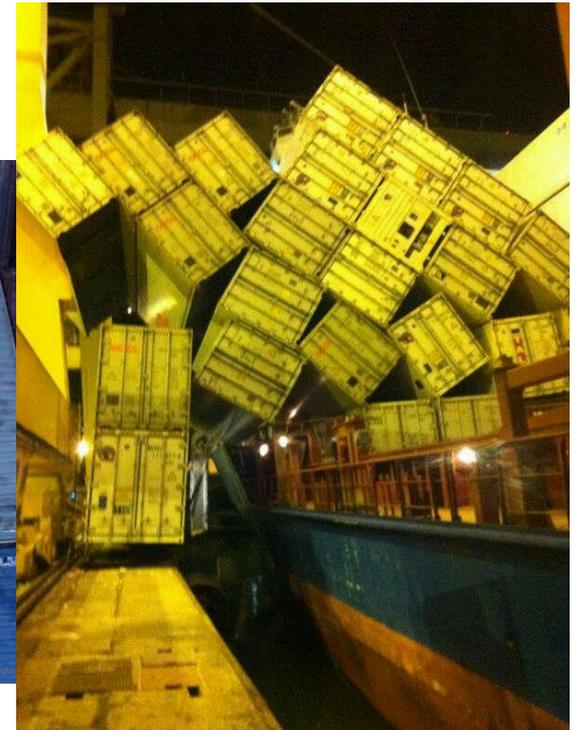




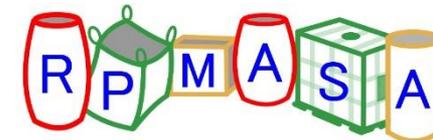
# RPMASA



**Bad Practices and non – compliance leads to these!**



**ICHCA**  
INTERNATIONAL





# RPMASA



**Bad Practices and non – compliance leads to these!**



**ICHCA**  
INTERNATIONAL





# RPMASA



**Bad Practices and non – compliance leads to these!**



**ICHCA**  
INTERNATIONAL

CDI





# RPMASA



**Bad Practices, mis-declarations and other non – compliance actions lead to these!**



**ICHCA**  
INTERNATIONAL

CDI





# RPMASA



**Exports are essential to our Industries & our Country  
Bad Practices, mis-declarations and other  
non - compliant practices are in the global spotlight!**

Understand the Regulations

Train your people

Keep records & Photos of cargo

Join RPMASA

Professional help is available

**Don't leave it until too late and incur penalties**

**Ignorance is no defence in the eyes of the law, and Your  
Insurance will not be favourable if no records of Training and key  
compliance requirements!**

**ICHCA**  
INTERNATIONAL





# RPMASA



## Exporters remember the C's for Transport Safety

COMPETENCE - Training

COMPATIBILITY for Packaging, Storage & Stowage

COMMUNICATION

CO-OPERATION

CONTROL

CONTINUOUS IMPROVEMENT

COMPLIANCE



**ICHCA**  
INTERNATIONAL

