



RPMASA Study on Industrial Packaging in South Africa

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Executive Summary

Introduction

Steel and Plastic Drums and IBC's are manufactured in South Africa and used for a wide variety of products, many of which are harmful to the Environment. Large numbers are also imported containing various products.

This type of large packaging is a resource that is too good to waste which should be returned for safe reprocessing and re-use. The reconditioners have complained that the numbers available for reprocessing has reduced – is this true and if so where do they go?

The Waste Act requires EPR – Extended Producer Responsibility and specifically mentions Life Cycle responsibility for packaging to be re-used and material recycled at End of Life for other purposes.

- Chemical Drums and IBC's can be safely reprocessed for re-use several times.
- All Chemical packaging must be compatible with contents, performance tested, certified and permanently marked with UN test certification to inform users what products it can be used for.
- Similarly Reprocessing of Drums and IBC's for re-use with chemicals must be done to satisfy standard requirements, be sorted for risk class and be marked as reprocessed with Reconditioners Registered Mark for safe re-use.

Purpose of the Survey

This survey was conducted to establish the number of local manufacturers of Industrial packaging in 2008 and:

- How many drums and IBC's manufactured and for which sector?
- How many drums and IBC's imported and for which sector?
- How many of each type are collected and reprocessed for re-use by which sector?
- How many are recycled by recyclers?
- How many go to landfills?
- How many are exported?
- How many reprocessors there are including those not Members of RPMASA?
- Where do the rest go – as Steel Drums can be used up to 5 times, and plastic drums and IBC's can be used up to 10 times depending on handling, storage and chemical compatibility?

Findings

The industrial container market is fairly small in South Africa. The number of containers locally manufactured, reconditioned and recycled is summarised in the table below:

	Steel manufactured	Steel reconditioned	% Reconditioned	Plastic manufactured	Plastic reconditioned	% Reconditioned	Plastic recycled	% recycled	% Recovered
20 & 25 litre	N/A	14 000	N/A	9 933 260	74 442	0.75%	823 235	8.29%	9.04%
>25 & < 210 litre	1 189 000	8 036	0.68%	394 800	2 474	0.63%	N/A	N/A	N/A
210 litre	2 029 600	950 920	46.85%	624 000	64 343	10.31%	810	0.13%	10.44%
IBC	-	-	-	N/A	*75 971	N/A	50	N/A	N/A

Key:

- N/A states that it is done in SA, figures could not be included due to confidentiality
- – indicates that no local manufacturer or re-processor was included

Results of the survey show that only the 210 litre steel containers are reasonably well recovered, reconditioned and reprocessed at a 47 % recovery rate. It should be remembered that steel containers can be reconditioned a number of times during its life.

Plastic containers of 20 and 25 litre as well as 210 litres are recovered at about 10 %. This is for reprocessing as well as recycling.

The Intermediate Bulk Containers (IBC's) covered by this survey include the solid plastic ones and the ones with a solid plastic inner in a steel cage. The abovementioned table contains no figures for steel- or flexible Intermediate Bulk Containers (IBC's). Flexible IBC's have flexible plastic (bag) liners in a rigid outer and can be re-used many times by just replacing the liner. Stainless steel IBC's are used by some companies for specific products. These are specially manufactured for purpose and used in a closed loop system between the supplier and customer.

There are large numbers of containers imported into and exported from South Africa in all the market sectors that were included in this survey. Composite 1000 litre IBC's fall in this category. Small quantities of composite IBC's are locally manufactured. (Figures could not be included as there are only two manufacturers.)

Conclusions

1. Despite a relatively small industrial packaging market in South Africa, it was almost impossible to estimate reasonable figures for the various sizes used in industrial packaging due to the large number of imported containers.
2. The smaller containers were not included in the survey as they are not only used for industrial applications but also for domestic and pharmaceutical applications.
3. A very small percentage of containers are reconditioned or recycled.
4. Only some intermediate bulk containers are equipped for tracking and tracing. It was not possible to establish the expectant life of reconditioned containers. Applications for reconditioned and reprocessed containers ranged from packaging for industrial chemicals to being used for braais and refuse bins.
5. Secondary applications, e.g. sales to the poor for storage of flour and water were not included.
6. It would be challenging to implement extended producer responsibility via the manufacturers or reconditioners. Brand owners and packers would be a more reliable route as it will also covers imported chemicals and containers.
7. Manufacturing and reconditioning according to international specifications, is not common practice.

Recommendations

1. The percentage recovery is very low and there are opportunities for better recovery and job creation.
2. The reconditioners, reprocessors and recyclers are small entrepreneurial businesses and developed their businesses on pure economic principles. The larger container generators use the reconditioners, reprocessors and recyclers as waste management companies. The reconditioners, reprocessors and recyclers are not equipped to deal with the remains of the contents. To reduce the risk of environmental disasters, it

would be simpler to manage safe and responsible handling from the industry itself rather than to rely on governmental laws and regulations.

3. The packers of the industrial container contents should accept full extended producer responsibility for its product as well as its packaging. This should apply to local as well as imported products.
4. It is recommended that the brand owners and container generators pay towards a levy that funds the transport, legal compliance and handling of the empty containers and the subsequent residue.
5. Energy recovery could be a valuable destination for obsolete plastic containers in future and should be investigated.
6. The collection and management of the brand owner levy should be the task of the industry association. Regular audits will ensure fair and just operating principles.
7. Performance testing and selection for risk category of the reconditioned container is a legal requirement which should be done according to SANS 10406. Compliance and Certification of the reconditioner should be monitored by an independent person or organisation. Something similar is already happening on a small percentage of higher valued intermediate bulk containers where the containers are tracked, traced and monitored.
8. Alternatively, a deposit system could be introduced where the container stays the property of the packer, similar to the crates industry. This could be managed with compulsory RFID tags.
9. An industry “green levy” similar to that proposed for tyres and used for gas cylinders, could be introduced and implemented by the packaging manufacturers which would ensure that all brand owners / product packers, users and emptiers would contribute to a fund to facilitate safe collection and reprocess for re-use or recycle. This could also be applied to importers.
10. The ultimate extended producer responsibility would have to start with the packers and brand owners.