



MINISTRY OF ENVIRONMENT AND NDU

ENVIRONMENTAL GUIDELINE No. 11

Food Canning Industry

1.0 Purpose of guideline

This environmental guideline for food canning industry has been prepared by the Ministry of Environment & NDU to ensure that all environmental issues are duly taken into consideration by stakeholders.

2.0 Nature of development

Food canning involves various processes, including:-

- selection , washing and peeling of fresh food
- cooking or processing with other ingredients like seasoning, salt, sugar, preservatives and colourings to make a final consumer product
- selection of appropriate cans
- processing of containers to render them free of any contamination
- canning, labeling and market sale

3.0 Potential impacts

The major environmental issues associated with food canning industries are noise, odour, air pollution and effluent generation. The different aspects, impacts and nuisances associated with such activities are listed below:

Activity	Aspects	Impacts/ Nuisances
Construction phase		
Site preparation / construction of buildings (where applicable)	- Generation of excavated soil , debris and construction wastes - Use of heavy machinery	-Dumping into barelands, water bodies and drains -Dust, noise and mud -Visual impacts
Operation phase		
Handling and storage of raw materials	- Putrefied wastes - Expired raw materials/ obsolete stocks	- Odour - Pest , flies and rodents - Health hazards
Processing , canning and	- Use of equipment/ machineries and type of fuel	- Noise - Fuel / oil spillage from

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labeling	<ul style="list-style-type: none"> - Stack emissions - Generation of solid wastes Including inappropriate/ damaged cans - Generation of wastewater - Poor housekeeping 	<p>machineries</p> <ul style="list-style-type: none"> -Impact on air quality -Contamination of land and water - Odour - Pest , flies and rodents - Health hazards
Washing and cleaning operations	<ul style="list-style-type: none"> - Generation of wastewater 	<ul style="list-style-type: none"> - Risk of water pollution
Loading and transportation of canned foods	<ul style="list-style-type: none"> - Inadequate parking spaces - Loading and unloading on public roads 	<ul style="list-style-type: none"> - Traffic implications

4.0 Siting of activity

Enterprises involved in the canning of food should be located outside residential areas.

5.0 Environmental conditions

The major environmental issues are **noise, odour, air pollution and effluent generation** and the following conditions shall be observed:

- (i) Physical and mechanical /electrical abatement measures shall be installed to reduce odour and noise.
- (ii) Flue and odorous gases shall be channeled through ducts connected to a chimney stack which shall be designed as per good engineering practices.
- (iii) All gaseous emissions from the food canning industry shall be within permissible limits as per the Environment Protection (Standards for Air) Regulations 1998. The stack emissions standards applicable to this undertaking are:

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Pollutant	Standard
(i) Smoke	Ringelmann No. 2 or equivalent opacity (not to exceed more that 5 minutes in any period of one hour)
(ii) Solid particles	200 mg/ m ³
(iii) Sulphuric acid mist or sulphur trioxide	120 mg/ m ³ as sulphur trioxide
(iv) Hydrogen sulphide	5 ppm as hydrogen sulphide gas
(v) Nitric acid or oxides of nitrogen	1 000 mg/ m ³ as nitrogen dioxide
(vi) Carbon monoxide	1 000 mg/ m ³ as carbon monoxide

- (iv) All electric motors such as stand-by generator and air- conditioning devices shall be housed in soundproof enclosures to keep noise level within permissible limits as per the Environment Protection (Environmental Standards for Noise) Regulations 1997. The noise exposure limits as per the above regulation are as follows:

Industrial noise		Neighbourhood noise	
7:00 – 21:00	60*dB(A) Leq	7:00 – 18:00	60 dB(A) Leq
21:00 – 7:00	55*dB(A) Leq	18:00 - 21:00	55 dB(A) Leq
		21:00 – 7:00	50 dB(A) Leq

* A tonal character adjustment of +5 dB(A) should be applied to the measured value where the noise has a definite continuous note such as a whine or hiss.

- (v) The refrigerant used and the insulating materials shall be free from ozone depleting substances (ODS) and shall be environment friendly with low global warming potential and as approved by the National Ozone Unit of the Ministry of Environment & NDU.
- (vi) Solid wastes shall be collected and disposed of.
- (vii) All putrefiable wastes shall be stored below room temperature.
- (viii) All wastewaters from the factory shall be collected, treated and disposed of.
- (ix) No nuisance by way of noise dust, air pollution shall be caused to the public and surrounding environment during site preparation, infrastructural works and during operation of the activity.
- (x) The Department of Environment of the Ministry of Environment and NDU shall be informed in writing of the dates of commencement of works on site and operation of the activity for monitoring purposes.

6.0 Enforcement

Under Section 13 of the Environment Protection Act 2002, the enforcing agencies for the different environmental medium or pollutants are as follows:

S. No	Environmental media/ pollutant	Enforcing Agency
1	Noise, odour	Ministry of Health and Quality of Life
2	Effluents	Ministry of Public Utilities
3	Solid wastes	Ministry of Local Government
4	Air pollution	Ministry of Environment

The above-mentioned enforcing agencies shall monitor compliance to the conditions falling under their purview.

7.0 Offences

Any person who fails to comply with any regulations/standards referred to in this guideline shall commit an offence and shall:

- (i) on a first conviction, be liable to a fine not exceeding 50, 000 rupees and to imprisonment for a term not exceeding two years.
- (ii) on a second or subsequent conviction, be liable to a fine not exceeding 100,000 rupees and to imprisonment for a term not exceeding 8 years.

For further information, please contact

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