Memorandum Circular No. \_\_\_\_\_\_\_\_\_\_\_\_\_

Series of 2017

**SUBJECT** : **POLYMERS AND POLYMER OF LOW CONCERN (PLC)EXEMPTION FROM THE PRE-MANUFACTURE AND PRE-IMPORTATION NOTIFICATION (PMPIN) PROCESS**

Pursuant to Section 11 (item c) of Republic Act 6969 (Toxic Substances and Hazardous and Nuclear Waste Control Act) and Section 22, Chapter VI of DENR Administrative Order (DAO) No. 29, Series of 1992 (Implementing Rules and Regulations of RA 6969) that state for the polymer exemption from the Pre-Manufacture Pre-Importation Notification (PMPIN) process, this memorandum circular shall provide specific criteria and requirements of polymers.

1. **Objective**

This Circular aims to provide guidelines for importers and manufacturers ofpolymers that are considered or determined by this Office as lowconcern or low risk to human health and to the environment andto be exempted from the Pre-Manufacture and Pre-Importation Notification (PMPIN) process.

1. **Scope and Coverage**

All importers and manufacturers of polymers not listed in the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

1. **Definition**

Applicant – Philippine companies/industries that are registered to import and/or to manufacture new polymer.

Cationic Polymer – a polymer containing a net positively-charged atom/s or associated group/s of atoms covalently linked to its polymer molecule. Examples are the ammonium, phosphonium and sulfonium cations.

Functional Group Equivalent Weight (FGEW) – as the ratio of the Number Average Molecular Weight (NAMW) to the number of functional groups in the polymer. It is the weight of a polymer that contains one formula weight of the functional group.

NAMWas thearithmetic mean average of the molecular weights of all molecules in a polymer, not taking into account unreacted monomers and other reactants but must include oligomers.

Gel Permeation Chromatography (GPC) – is an analytical technique that separates dissolved macromolecules by size based on their elution from columns filled with a porous gel. It can measure absolute molecular weight, molecular size and intrinsic viscosity, and generate information on macromolecular structure, conformation, aggregation and branching.

Infrared (IR) Spectroscopy – is the analysis of infrared light interacting with a molecule.IR Spectroscopy measures the vibrations of atoms, and based on this it is possible to determine the functional groups.

Molecular Weight (MW) – is the mass of a molecule of an element or compound.

Monomer – molecule that has reactive functional groups or double/triple bonds capable to forming a polymer. A chemical substance that is capable of forming covalent bonds with two or more like or unlike molecules under the conditions of the relevant polymer-forming reaction used for the particular process.

New Monomer – monomers not listed in the PICCS.

Reactant – a chemical substance that is used intentionally in the manufacture of a polymer to become chemically a part of the polymer composition

Oligomer - a compound intermediate between a monomer and a polymer, normally having a specified number of units between about five and a hundred.

Polymer – (1) means a substance consisting of molecules characterized by the sequence of one or more types of monomer units and comprising a simple weight majority of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant and consists of less than a simple weight majority of molecules of the same molecular weight. Such molecules must be distributed over a range of molecular weights wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units.

(2) is a substance composed of more than 50% of molecules containing a sequence of at least three monomer units covalently bound to at least one other monomer unit or other reactant;

(3) has molecules distributed over a range of MW; and

(4) has no single MW molecule reaching 50% (w/w) of total molecules.

Polymer of Low Concern (PLC) – (a) must meet the definition of polymers;

(b)cationic polymercan be exempted if the FGEW is >5000 Daltons; and

(c)must not be unstable, degradable, decompose, or depolymerize.

1. **Criteria for Polymer**

The polymer shall meet any of the criteria to be exempted from PMPIN process:

* + 1. All of its monomers must be listed in the PICCS.
		2. Polymers containing monomers and other reactants (including cross linking, chain transfer agents, and post polymerization reactants) not in the PICCS added at total quantities less than 2 percent (by weight);
		3. The low concern polymer shall fall into one of the categories:
	1. Polymers that have:

– Number AverageMolecular Weight (NAMW) equal to or greater than10,000 Da,

– Less than 5% of oligomers with MW lower than 1000 Da and less than 2% of oligomers with MW lower than 500 Da, and

– An FGEW for cationic polymers of greater than 5000 Da.

* 1. Polymers that have:

– NAMW equal to or greater than 1000Da and less than 10,000 Da,

– Less than 25% of oligomers with MW lower than 1000 Da and less than 10% of oligomers with MW lower than 500 Da, and

– No reactive functional groups in excess of the levels of 2% by weight.

1. **Requirements**
	* 1. The applicant must submit a duly notarized and accomplished polymer exemption form (signed by the top management i.e.,CEO, President, General Manager(Annex 1).
		2. Polymer information like specific chemical name, chemical structure, CAS number (if available), use/s of the polymer.
		3. Safety Data Sheet (SDS) for the polymer alone or as isolated as possible.
		4. 100% composition including CAS numbers of monomers of the polymer.
		5. Test data/report to prove that the polymer falls in the criteria of low concern polymer(GPC, IR Spectroscopy and others).
		6. Processing fee of PhP 500.00 per polymer per product.
2. **Confidential Business Information (CBI)**

The applicant shall indicate in the polymer exemption form and the covering letter for Confidential Business Information (CBI) applications. The details for CBI shall be sent by the supplier.

1. **Transition**

All polymers previously granted Exemption are no longer subject to this policy. All new polymers that meet the criteria are given one year to comply. Polymers that do not meet the PLC criteria should comply with the PMPIN procedures.

1. **Processing**

The DENR-EMB shall review the Polymer Exemption application within forty (40) working days from receipt of the application. In case of incomplete submission of the requirement, a letter for additional information shall be issued to the applicant. Failure to submit the additional information within 60 days upon receipt of letter shall consider their application “null and void”.

 The polymers that are exempted shall not be listed in the PICCS.

1. **Revocation Clause**

Any misrepresentation, misinformation, misstatement, fabrication and falsification of submitted information after the issuance of the Polymer Exemption shall automatically be revoked and shall be subjected to the penalty provision.

1. **Penalty Clause**

Any person/s found violating any of the provisions specified in this Order shall be subject to administrative violations and fines under Section 15 of R.A. 6969, as well as Section 43, Chapter XII, title V of DAO 29, Series of 1992 and other existing pertinent laws.

1. **Separability Clause**

If any portion or provision of this Circular is declared unconstitutional or invalid, the remaining portions of this Circular shall remain valid and enforceable.

1. **Effectivity**

This Circular shall take effect fifteen (15) days after its complete publication in a newspaper of general circulation.

 **ENGR. METODIO U. TURBELLA**

 Director