



## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### **Superfund Tax on Chemical Substances; Notice of Determinations to Add Substances to List of Taxable Substances; Corrected Name and Tax Rate for Sodium Nitrilotriacetate Monohydrate**

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice of Determinations.

**SUMMARY:** This notice of determinations modifies the list of taxable substances to include the following 21 substances: polyphenylene sulfide, cellulose acetate (degree of substitution = 1.5 - 2.0), 4,4'-isopropylidenediphenol-epichlorohydrin copolymer, nylon 6, caprolactam, methyl ethyl ketoxime, iso-butanol, diethylene glycol monomethyl ether, ethylene glycol phenyl ether, methoxytriglycol, propylene glycol methyl ether acetate, propylene glycol methyl ether, propylene glycol n-propyl ether, propylene glycol phenyl ether, di-isobutyl carbinol, di-isobutyl ketone, methyl isobutyl carbinol, cyanuric acid, potassium bicarbonate, potassium carbonate, and sodium chlorite. This notice also modifies the list included in Notice 2021-66 by correcting a typographical error in the spelling of the name of the taxable substance sodium nitrilotriacetate monohydrate and prescribing a tax rate for sodium nitrilotriacetate monohydrate.

**DATES:** The effective date for purposes of the tax under section 4671 of the Internal Revenue Code (Code) for the taxable substances added to the list is January 1, 2026. For the effective date for purposes of refund claims under section 4662(e) of the Code for the taxable substances added to the list, see the determination for each substance. The tax rate for sodium nitrilotriacetate monohydrate is effective July 1, 2022.

**FOR FURTHER INFORMATION CONTACT:** Andrew Clark or Jacob Peeples at (202) 317-6855 (not a toll-free number).

**SUPPLEMENTARY INFORMATION:**

## Background

Section 4671(a) of the Code imposes an excise tax on the sale or use of a taxable substance by the importer thereof. Section 4672(a)(1) of the Code defines the term *taxable substance* as any substance which, at the time of sale or use by the importer, is listed as a taxable substance by the Secretary of the Treasury or the Secretary's delegate (Secretary) on the list of taxable substances under section 4672(a) (List).

Under section 4672(a)(2), an importer or exporter of any substance may request that the Secretary determine whether such substance should be added to the List as a taxable substance or should be removed from the List. Under section 4672(a)(2)(B) and (4) and (b)(2), the Secretary is required to add a substance to the List if the Secretary determines that any taxable chemicals that are listed in section 4661(b) of the Code constitute more than 20 percent of the weight, or more than 20 percent of the value, of the materials used to produce such substance, which determination is required under section 4672(a)(2)(B) and (a)(4) to be made based on the predominant method of production (weight or value test). Section 4672(a)(4) authorizes the Secretary to remove a substance from the List only if such substance meets neither the weight nor the value test of section 4672(a)(2)(B).

Section 4672(a)(3) includes an initial list of taxable substances. Section 4 of Notice 2021-66 (2021-52 I.R.B. 901) provides the list of 101 substances that the Secretary added to the List before November 15, 2021. Rev. Proc. 2022-26 (2022-29 I.R.B. 90), *as modified by* Rev. Proc. 2023-20 (2023-15 I.R.B. 636), provides the exclusive procedures by which an importer, exporter, or interested person may request a determination that a particular substance be added to or removed from the List.

Section 4671(b)(3) authorizes the Secretary to prescribe a tax rate for taxable substances in lieu of the tax rate specified in section 4671(b)(2). The tax rate

prescribed by the Secretary for a substance added to the List is calculated by multiplying the conversion factor for each taxable chemical used in the production of the substance by the corresponding tax rate for that taxable chemical under section 4661(b), and adding those results together. Conversion factors are determined based on the predominant method of production of the substance. See sections 8 and 10.04(8) of Rev. Proc. 2022-26. Importers are not required to use the prescribed tax rate for a taxable substance and may calculate their own rate under section 4671(b)(1).

Pursuant to section 4672(a)(4), this notice of determination modifies the List to include the 21 additional taxable substances listed in the Summary of Determinations section of this notice, as explained in the Requests to Add Substances to the List and General Explanation of Determinations sections of this notice. The determination for each specific substance added to the List is explained in parts I through XXI of the Modifications to the List of Taxable Substances section of this notice.

In June 2022, the Secretary prescribed rates for some of the substances listed in section 4672(a)(3) and Notice 2021-66.<sup>1</sup> The Correction to the List of Taxable Substances section of this notice modifies Notice 2021-66 by correcting a typographical error in the spelling of sodium nitrilotriacetate monohydrate and prescribing a tax rate for the substance. The updated List and prescribed tax rates for taxable substances will be included in the instructions to Form 6627, *Environmental Taxes*.

## **Summary of Determinations**

On **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**, the Secretary determined to add the following substances to the List:

- I. Polyphenylene sulfide
- II. Cellulose acetate (degree of substitution = 1.5 - 2.0)
- III. 4,4'-isopropylidenediphenol-epichlorohydrin copolymer

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<sup>1</sup> Available at <https://www.irs.gov/newsroom/irs-issues-superfund-chemical-excise-tax-rates>.

- IV. Nylon 6
- V. Caprolactam
- VI. Methyl ethyl ketoxime
- VII. Iso-butanol
- VIII. Diethylene glycol monomethyl ether
- IX. Ethylene glycol phenyl ether
- X. Methoxytriglycol
- XI. Propylene glycol methyl ether acetate
- XII. Propylene glycol methyl ether
- XIII. Propylene glycol n-propyl ether
- XIV. Propylene glycol phenyl ether
- XV. Di-isobutyl carbinol
- XVI. Di-isobutyl ketone
- XVII. Methyl isobutyl carbinol
- XVIII. Cyanuric acid
- XIX. Potassium bicarbonate
- XX. Potassium carbonate
- XXI. Sodium chlorite

#### **Requests to Add Substances to the List**

For each of the substances listed in the Summary of Determinations section of this notice, an importer, an exporter, or an interested person submitted a petition to the IRS in accordance with Rev. Proc. 2022-26 requesting a determination under section 4672(a)(2) to add the substance to the List. For each substance, the petition represented that the taxable chemicals constitute more than 20 percent of the weight of materials used to produce the substance, based on the predominant method of production.

## General Explanation of Determinations

After reviewing the petitions for each of the substances listed in the Summary of Determinations section of this notice, the Secretary determined that taxable chemicals constitute more than 20 percent by weight of the materials used to produce the substance, based on the predominant method of production. Therefore, each of the substances is added to the List as required under section 4672(a)(2) and (4). The Secretary made the determinations to add these substances to the List in accordance with the requirements of section 4672(a)(2) and (4), and pursuant to the procedures set forth in Rev. Proc. 2022-26, *as modified by* Rev. Proc. 2023-20.

The relevant information for each taxable substance is provided in the specific determinations included in parts I through XXI of the Modification to the List of Taxable Substances section of this notice. The tax rate for each taxable substance, as prescribed by the Secretary, is provided in paragraph (a)(6) of each specific determination.

Classification numbers proposed by each petitioner are included in paragraph (b) of each part, after each specific determination. The classification numbers provided with respect to a taxable substance are not part of the determination of whether it is added to the List and do not impact whether such substance is a taxable substance. Taxpayers may not rely on classification numbers for any purpose under sections 4661, 4662, 4671, and 4672, including (but not limited to) identification of a substance as a taxable substance on the List. Classification numbers may change over time. The Department of the Treasury (Treasury Department) and the IRS do not anticipate updating this document to reflect any such changes.

For purposes of the section 4671 tax, all the modifications in parts I through XXI of the Modification to the List of Taxable Substances section of this notice are effective on and after January 1, 2026. For purposes of refund claims under section 4662(e),

see the effective date for each specific determination in paragraph (a)(5)(ii) of each of parts I through XXI of the Modification to the List of Taxable Substances section of this notice. The tax rate for sodium nitrilotriacetate monohydrate in the Correction to the List of Taxable Substances section of this notice is effective July 1, 2022.

## **Modifications to the List of Taxable Substances**

### **I. Determination to Add Polyphenylene Sulfide to the List**

Celanese Ltd., an exporter of polyphenylene sulfide, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add polyphenylene sulfide to the List. According to the petition, the taxable chemicals sodium hydroxide, benzene, and chlorine constitute 90.00 percent by weight of the materials used to produce polyphenylene sulfide, based on the predominant method of production.

(a) *Determination.* Polyphenylene sulfide is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The process involves three separate reactions:

(i) 1,4 dichlorobenzene is made from the reaction of benzene with 2 equivalents of chlorine;

(ii) Sodium hydrogen sulfide is made from the reaction of hydrogen sulfide with sodium hydroxide; and

(iii) 1,4-dichlorobenzene (p-dichlorobenzene, p-DCB), sodium hydrosulfide (NaSH), and sodium hydroxide (NaOH) are reacted at high temperature and high pressure to form polyphenylene sulfide and byproduct sodium chloride.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The polyphenylene sulfide petition was filed on December 20, 2022. The notice of filing summarizing the petition and requesting

comments was published in the ***Federal Register*** (87 FR 80579) on December 30, 2022. A supplemental notice of filing announcing a corrected petition and correction to the stoichiometric material consumption equation in the original notice of filing and requesting comments was published in the ***Federal Register*** (89 FR 11941) on February 15, 2024. The Treasury Department and the IRS received no written comments in response to the original notice of filing or the supplemental notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation in the corrected petition, as provided in the supplemental notice of filing, and other information in the petition shows that the taxable chemicals sodium hydroxide, benzene, and chlorine constitute more than 20 percent by weight of the materials used in the production of polyphenylene sulfide, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of polyphenylene sulfide to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$14.50 per ton. The conversion factors for the taxable chemicals used in the production of polyphenylene sulfide are 0.74 for sodium hydroxide, 0.72 for benzene, and 1.31 for chlorine. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate

for that taxable chemical:  $((0.74 \times \$0.56) + (0.72 \times \$9.74) + (1.31 \times \$5.40)) = \$14.50$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 3911.90.2500

(ii) *Schedule B number:* 3911.90.6100

(iii) *CAS numbers:* 25212-74-2, 26125-40-6

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **II. Determination to Add Cellulose Acetate (Degree of Substitution = 1.5 – 2.0) to the List**

Celanese Ltd., an exporter of cellulose acetate (degree of substitution = 1.5 – 2.0), submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add cellulose acetate (degree of substitution = 1.5 – 2.0) to the List. According to the petition, the taxable chemical methane constitutes greater than 20 percent<sup>2</sup> by weight, of the materials used to produce cellulose acetate (degree of substitution = 1.5 – 2.0), based on the predominant method of production.

(a) *Determination.* Cellulose acetate (degree of substitution = 1.5 – 2.0) is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Cellulose acetate is derived from cellulose by deconstructing wood pulp into a purified cellulose. The cellulose is reacted with acetic acid and acetic anhydride in the presence of sulfuric acid. It is subjected to a

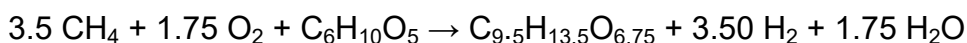
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<sup>2</sup> The petition covers cellulose acetate (degree of substitution = 1.5 – 2.0), commonly referred to as cellulose diacetate. Cellulose acetate in this range generally has similar properties. The petition uses the lowest end of the range cellulose acetate (degree of substitution = 1.5) (21 percent taxable chemicals) to demonstrate that >20% of the substance is made from taxable chemicals, and the midpoint cellulose acetate (degree of substitution = 1.75) (24 percent taxable chemicals) to calculate the tax rate for the entire range.



controlled, partial hydrolysis to remove the sulfate and a sufficient number of acetate groups to give the product the desired degree of substitution. The polymer unit is the fundamental repeating structure of cellulose and has three hydroxyl groups which can react to form acetate esters. The most common form of cellulose acetate fiber has an acetate group on approximately two of every three hydroxyls, referred to as cellulose diacetate. In this petitioner's cellulose acetate, the actual substitution is 1.674 acetate/cellulose, a degree of substitution commonly used in U.S. cellulose acetate production.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The cellulose acetate (degree of substitution = 1.5 – 2.0) petition was filed on December 20, 2022. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (88 FR 16307) on March 16, 2023. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical methane constitutes more than 20 percent by weight of the materials used in the production of cellulose acetate (degree of substitution = 1.5 – 2.0), based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of cellulose acetate (degree of substitution = 1.5 – 2.0) to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$1.65 per ton. The conversion factor for the methane used in the production of cellulose acetate (degree of substitution = 1.5 – 2.0) is 0.24. The tax rate is calculated by multiplying the conversion factor by the tax rate for methane:  $(0.24 \times \$6.88 = \$1.65)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification number:* CAS number: 9035-69-2

(2) *The Secretary is unable to confirm the following proposed classification numbers:*

(i) *HTSUS numbers:* 5502.10.0000, 5403.33.0020

(ii) *Schedule B numbers:* 5502.10.0000, 5403.33.0000

### **III. Determination to Add 4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer to the List**

Westlake Epoxy Inc., an exporter of 4,4'-isopropylidenediphenol-epichlorohydrin copolymer, also known as “bisphenol A epoxy resin,” submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add 4,4'-isopropylidenediphenol-epichlorohydrin copolymer to the List. According to the petition, the taxable chemicals benzene, propylene, chlorine, and sodium hydroxide constitute 92.98 percent by weight of the materials used to produce 4,4'-isopropylidenediphenol-epichlorohydrin copolymer, based on the predominant method of production.

(a) *Determination.* 4,4'-isopropylidenediphenol-epichlorohydrin copolymer, also known as “bisphenol A epoxy resin,” is added to the list of taxable substances under

section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* 4,4'-isopropylidenediphenol-epichlorohydrin copolymer is produced from epichlorohydrin and bisphenol-A via a two-step glycidation reaction sequence. Epichlorohydrin is typically produced via an addition reaction of chlorine to propylene that yields allyl chloride and subsequently dichlorohydrin isomers, followed by a dehydrochlorination step in the presence of sodium hydroxide to yield epichlorohydrin. Bisphenol A is typically produced from the reaction of benzene and propylene that yields phenol and acetone. Under acidic conditions and with an appropriate catalyst, two units of phenol can react with one unit of acetone to yield Bisphenol A. With available epichlorohydrin and Bisphenol A, 4,4'-isopropylidenediphenol-epichlorohydrin copolymer can be obtained through a two-step glycidation reaction sequence where epichlorohydrin is added to Bisphenol A (deprotonated with sodium hydroxide) and then water, sodium hydroxide, and sodium chloride are removed in a dehydrochlorination step.

(2) *Stoichiometric material consumption equation:*

$$2 \text{ C}_6\text{H}_6 \text{ (benzene)} + 4 \text{ C}_3\text{H}_6 \text{ (propylene)} + 4 \text{ Cl}_2 \text{ (chlorine)} + 6 \text{ NaOH (sodium hydroxide)} + 2 \text{ O}_2 \text{ (oxygen)} \rightarrow (\text{CH}_3)_2\text{C}(\text{C}_6\text{H}_4\text{OC}_3\text{H}_5\text{O})_2 \text{ (4,4'-isopropylidenediphenol-epichlorohydrin copolymer)} + \text{CH}_3\text{COCH}_3 \text{ (acetone)} + 2 \text{ HCl (hydrogen chloride)} + 6 \text{ NaCl (sodium chloride)} + 5 \text{ H}_2\text{O (water)}$$

(3) *Reasons for the determination:* The 4,4'-isopropylidenediphenol-epichlorohydrin copolymer petition was filed on December 20, 2022. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (88 FR 3478) on January 19, 2023. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals benzene, propylene,

chlorine, and sodium hydroxide constitute more than 20 percent by weight of the materials used in the production of 4,4'-isopropylidenediphenol-epichlorohydrin copolymer, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of 4,4'-isopropylidenediphenol-epichlorohydrin copolymer to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$14.13 per ton. The conversion factors for the taxable chemicals used in the production of 4,4'-isopropylidenediphenol-epichlorohydrin copolymer are 0.46 for benzene, 0.49 for propylene, 0.83 for chlorine, and 0.71 for sodium hydroxide. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.46 \times \$9.74) + (0.49 \times \$9.74) + (0.83 \times \$5.40) + (0.71 \times \$0.56) = \$14.13)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 3907.30.0000

(ii) *Schedule B number:* 3907.30.0000

(iii) *CAS number:* 25068-38-6

(2) *The Secretary is unable to confirm the following proposed classification*

*numbers*: Not applicable.

#### **IV. Determination to Add Nylon 6 to the List**

AdvanSix Inc., an exporter of nylon 6, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add nylon 6 to the List. According to the petition, nylon 6 is made from the taxable chemicals benzene, propylene, ammonia, methane, and sulfuric acid; however, sulfuric acid is cancelled from the stoichiometric material consumption equation due to no net consumption/production. The petition further represented that the benzene, propylene, ammonia, and methane constitute 46.64 percent by weight of the materials used to produce nylon 6, based on the predominant method of production.

(a) *Determination*. Nylon 6 is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production*: The predominant method of production of nylon 6 is the “hydrolytically initiated ring-opening polymerization of caprolactam” which is also referred to in industry literature as the “hydrolytic polymerization of nylon 6.” This process is termed “hydrolytic” because water plays a key role in the chemical mechanism. Nylon 6 is produced almost exclusively through this method because it is easier to control and better adapted for large-scale operations.

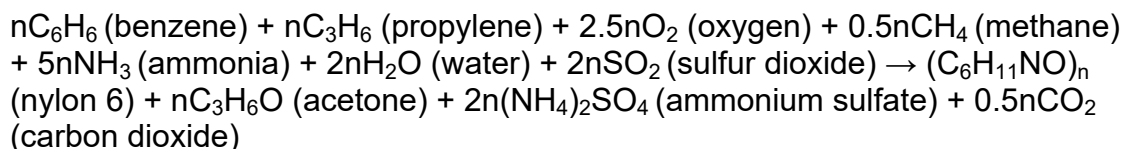
The hydrolytic polymerization of nylon 6 generally entails heating a mixture of caprolactam and water to ~270°C in an inert atmosphere of nitrogen and holding until equilibrium conditions are achieved. The three principal reactions in this process are summarized below:

(i) In the initiation step of the process, the caprolactam ring is hydrolyzed via ring opening with the addition of one water molecule to become amino-caproic acid.

(ii) In the next step of the mechanism, the amino-caproic acid acts as the initiating species to begin the addition polymerization by ring-opening of caprolactam.

(iii) The last major mechanism step of the hydrolytic polymerization of nylon 6 is the condensation of primary amine and carboxylic acid chain-ends to form an amide linkage in the now higher molecular weight polyamide with the simultaneous loss of a water molecule.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The nylon 6 petition was filed on November 8, 2023. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** on February 22, 2024 (89 FR 13399). A supplemental notice of filing announcing a corrected petition, correction to the stoichiometric material consumption equation in the original notice of filing, and requesting comments was published in the ***Federal Register*** (89 FR 66175) on August 14, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing and received one written comment in response to the supplemental notice of filing, discussed below. A public hearing was neither requested nor held.

The public comment submitted in response to the supplemental notice of filing generally wrote in support of adding nylon 6 to the list of taxable substances. However, the commenter requested that the Treasury Department and the IRS add to the list of taxable substances the categories ‘nylon resins’ or ‘polyamides’ rather than merely the single taxable substance nylon 6. The commenter asserts that nylon 6 is one of the many grades of nylons or polyamides which contain more than 20 percent of taxable chemicals.

At this time, the Treasury Department and the IRS decline to add the additional categories of nylon resins and polyamides to the List, as suggested by the commenter.

The filed petition that is the subject of this determination requested only to add the substance nylon 6 to the List, so a comment that the Treasury Department and the IRS should add additional substances to the List is outside the scope of the determination for nylon 6. To request to add nylon resins and polyamides to the List, an importer, exporter, or interested person must follow the determination procedures provided under Rev. Proc. 2022-26, including submitting a petition for each substance with the required information. See sections 4 and 6 of Rev. Proc. 2022-26.

The Secretary followed the process in section 4672(a)(2)(B) in making the determination to add nylon 6 to the List. A review of the stoichiometric material consumption equation in the corrected petition, as provided in the supplemental notice of filing, and other information in the petition shows that the taxable chemicals benzene, propylene, ammonia, and methane constitute more than 20 percent by weight of the materials used in the production of nylon 6, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of nylon 6 to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$14.77 per ton. The conversion factors for the taxable chemicals used in the production of nylon 6 are 0.69 for benzene, 0.37 for propylene, 0.75 for ammonia, and 0.07 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate

for that taxable chemical:  $((0.69 \times \$9.74) + (0.37 \times \$9.74) + (0.75 \times \$5.28) + (0.07 \times \$6.88)) = \$14.77$ ).

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 3908.10.00

(ii) *Schedule B number:* 3908.10.0000

(iii) *CAS number:* 25038-54-4

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **V. Determination to Add Caprolactam to the List**

AdvanSix Inc., an exporter of caprolactam, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add caprolactam to the List. According to the petition, caprolactam is made from the taxable chemicals benzene, propylene, ammonia, methane, and sulfuric acid; however, sulfuric acid is cancelled from the stoichiometric material consumption equation due to no net consumption/production. The petition also represented that the benzene, propylene, ammonia, and methane constitute 46.64 percent by weight of the materials used to produce caprolactam, based on the predominant method of production.

(a) *Determination.* Caprolactam is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Caprolactam is produced by first oxidizing cumene to yield phenol, which is then partially reduced with hydrogen to yield cyclohexanone. Cyclohexanone is then reacted with Raschig hydroxylamine to generate cyclohexanone oxime. The cyclohexanone oxime undergoes Beckmann rearrangement in the presence of fuming sulfuric acid (oleum) to give an intermediate



material known as rearrangement mass, which is subsequently hydrolyzed and then neutralized with ammonia to yield  $\epsilon$ -caprolactam.

*(2) Stoichiometric material consumption equation:*

$\text{C}_6\text{H}_6$  (benzene) +  $\text{C}_3\text{H}_6$  (propylene) +  $2.5 \text{ O}_2$  (oxygen) +  $0.5 \text{ CH}_4$  (methane) +  $5 \text{ NH}_3$  (ammonia) +  $2 \text{ H}_2\text{O}$  (water) +  $2 \text{ SO}_2$  (sulfur dioxide)  $\rightarrow$   $\text{C}_6\text{H}_{11}\text{ON}$  ( $\epsilon$ -caprolactam) +  $\text{C}_3\text{H}_6\text{O}$  (acetone) +  $2(\text{NH}_4)_2\text{SO}_4$  (ammonium sulfate) +  $0.5 \text{ CO}_2$  (carbon dioxide)

*(3) Reasons for the determination:* The caprolactam petition was filed on November 8, 2023. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 13400) on February 22, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals benzene, propylene, ammonia, and methane constitute more than 20 percent by weight of the materials used in the production of caprolactam, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

*(4) Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

*(5) Effective dates for addition of caprolactam to the List:*

*(i) Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

*(ii) Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* January 1, 2023

*(6) Tax rate prescribed by the Secretary:* \$14.77 per ton. The conversion factors for the taxable chemicals used in the production of caprolactam are 0.69 for benzene,

0.37 for propylene, 0.75 for ammonia, and 0.07 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.69 \times \$9.74) + (0.37 \times \$9.74) + (0.75 \times \$5.28) + (0.07 \times \$6.88)) = \$14.77$ ).

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2933.71.00

(ii) *Schedule B number:* 2933.71.0000

(iii) *CAS number:* 105-60-2

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **VI. Determination to Add Methyl Ethyl Ketoxime to the List**

AdvanSix Inc., an exporter of methyl ethyl ketoxime (commonly referred to as MEKO), submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add methyl ethyl ketoxime to the List. According to the petition, methyl ethyl ketoxime is made from the taxable chemicals ammonia, sulfuric acid, and butylene; however, sulfuric acid is cancelled from the stoichiometric material consumption equation due to no net consumption/production. The petition further represented that ammonia and butylene constitute 39.97 percent by weight of the materials used to produce methyl ethyl ketoxime, based on the predominant method of production.

(a) *Determination.* Methyl ethyl ketoxime is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The conventional method was developed in the late 1960s via a route that involves condensation of methyl ethyl ketone with a hydroxylamine salt in the presence of a base. More specifically, methyl ethyl ketone is

oximated with Raschig hydroxylamine to yield methyl ethyl ketoxime.

*(2) Stoichiometric material consumption equation:*

$\text{C}_4\text{H}_8$  (butylene) + 5  $\text{NH}_3$  (ammonia) + 2  $\text{H}_2\text{O}$  (water) + 1.5  $\text{O}_2$  (oxygen) + 2  $\text{SO}_2$  (sulfur dioxide)  $\rightarrow$   $\text{C}_4\text{H}_9\text{ON}$  (methyl ethyl ketoxime) + 2  $(\text{NH}_4)_2\text{SO}_4$  (ammonium sulfate) +  $\text{H}_2$  (hydrogen)

*(3) Reasons for the determination:* The methyl ethyl ketoxime petition was filed on July 10, 2023. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (88 FR 45454) on July 17, 2023. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals ammonia and butylene constitute more than 20 percent by weight of the materials used in the production of methyl ethyl ketoxime, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

*(4) Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

*(5) Effective dates for addition of methyl ethyl ketoxime to the List:*

*(i) Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

*(ii) Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* January 1, 2023

*(6) Tax rate prescribed by the Secretary:* \$11.41 per ton. The conversion factors for the taxable chemicals used in the production of methyl ethyl ketoxime are 0.98 for ammonia and 0.64 for butylene. The tax rate is calculated by adding the products of the

conversion factor for each taxable chemical and the tax rate for that taxable chemical:

$$((0.98 \times \$5.28) + (0.64 \times \$9.74)) = \$11.41).$$

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2928.00.10

(ii) *Schedule B number:* 2928.00.1000

(iii) *CAS number:* 96-29-7

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **VII. Determination to Add Iso-butanol to the List**

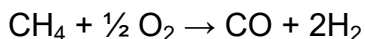
OQ Chemicals Corporation, an exporter of iso-butanol, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add iso-butanol to the List.

According to the petition, the taxable chemicals methane and propylene constitute 78.41 percent by weight of the materials used to produce iso-butanol, based on the predominant method of production.

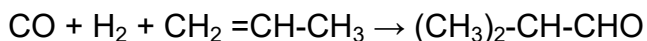
(a) *Determination.* Iso-butanol is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Iso-butanol is co-produced by hydroformylation of propylene to produce both iso-butyraldehyde and n-butyraldehyde followed by hydrogenation of the aldehyde intermediates to the corresponding iso-butanol and n-butanol. The predominant method of production is as follows:

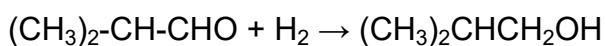
(i) Partial oxidation of methane with oxygen to produce synthesis gas, a mixture of carbon monoxide and hydrogen. This petitioner uses a Partial Oxidation (POX) process that is non catalytic but operates at >1300 deg C and >40 atm pressure. Thus, synthesis gas is produced from methane and oxygen:



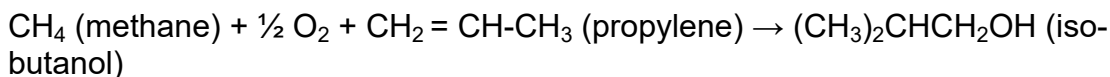
(ii) Oxo process: Hydroformylation of propylene with carbon monoxide and hydrogen over a catalyst to produce iso-butyraldehyde. The reaction also produces normal butyraldehyde simultaneously; the stoichiometry is the same for either the iso or the normal aldehyde. Thus, iso-butyraldehyde is produced from propylene and syngas.



(iii) Iso-butyraldehyde is hydrogenated with hydrogen over a catalyst. Thus, iso-butanol is produced from iso-butyraldehyde and hydrogen.



(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The iso-butanol petition was filed on January 25, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 14558) on February 27, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals methane and propylene constitute more than 20 percent by weight of the materials used in the production of iso-butanol, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of iso-butanol to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev.*

*Proc. 2022-26*): January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20)*: April 1, 2023

(6) *Tax rate prescribed by the Secretary*: \$7.07 per ton. The conversion factors for the taxable chemicals used in the production of iso-butanol are 0.22 for methane and 0.57 for propylene. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.22 \times \$6.88) + (0.57 \times \$9.74) = \$7.07)$ .

(b) *Classification numbers*.

(1) *The Secretary has no basis to object to the following proposed classification numbers*:

(i) *HTSUS number*: 2905.14.50.10

(ii) *Schedule B number*: 2905.14.5010

(iii) *CAS number*: 78-83-1

(2) *The Secretary is unable to confirm the following proposed classification numbers*: Not applicable.

## **VIII. Determination to Add Diethylene Glycol Monomethyl Ether to the List**

The Dow Chemical Company, an exporter of diethylene glycol monomethyl ether, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add diethylene glycol monomethyl ether to the List. According to the petition, the taxable chemicals ethylene and methane constitute 59.00 percent by weight of the materials used to produce diethylene glycol monomethyl ether, based on the predominant method of production.

(a) *Determination*. Diethylene glycol monomethyl ether is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Diethylene glycol monomethyl ether ( $C_5H_{12}O_3$ ) is produced by the alkoxylation process using methanol ( $CH_3OH$ ) and 2 equivalents of ethylene oxide ( $C_2H_4O$ ). Methanol is made from syngas (carbon monoxide and dihydrogen). Carbon monoxide (CO) and dihydrogen ( $H_2$ ) are made by steam-methane reforming ( $CH_4$  and  $H_2O$ ). Ethylene oxide (EO) is made from oxidizing ethylene ( $C_2H_4$ ). Additional information on the production process is as follows:

(i) The diethylene glycol monomethyl ether reaction (methanol + EO) is base catalyzed, using a small amount of metal hydroxide to produce methoxide. Since the amount of metal hydroxide used to produce diethylene glycol monomethyl ether<sup>3</sup> is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(ii) Once methoxide is made, it is regenerated following conversion to the product in the presence of EO as follows:

(A) Methoxide + 2 EO  $\rightarrow$  diethylene glycol monomethyl ether-alkoxide

(B) Diethylene glycol monomethyl ether-alkoxide + methanol  $\rightarrow$  diethylene glycol monomethyl ether + methoxide (goes back to participate in the reaction above).

(iii) Regenerated methoxide in the presence of EO will perpetually react until all EO is consumed or the reaction is halted through the use of controls.

(2) *Stoichiometric material consumption equation:*

$2 C_2H_4$  (ethylene) +  $O_2$  (oxygen) +  $CH_4$  (methane) +  $H_2O$  (water)  $\rightarrow H_2$  (hydrogen) +  $C_5H_{12}O_3$  (diethylene glycol monomethyl ether)

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<sup>3</sup> The Notice of Filing erroneously stated, "Since the amount of metal hydroxide used to produce propylene glycol methyl ether..." This error is corrected here.

(3) *Reasons for the determination:* The diethylene glycol monomethyl ether petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71788) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals ethylene and methane constitute more than 20 percent by weight of the materials used in the production of diethylene glycol monomethyl ether, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of diethylene glycol monomethyl ether to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$5.47 per ton. The conversion factors for the taxable chemicals used in the production of diethylene glycol monomethyl ether are 0.47 for ethylene and 0.13 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.47 \times \$9.74) + (0.13 \times \$6.88) = \$5.47)$ .

(b) *Classification numbers.*



(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2909.44.01.10

(ii) *Schedule B number:* 2909.49.0000

(iii) *CAS number:* 111-77-3

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

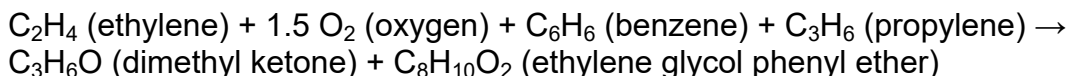
## **IX. Determination to Add Ethylene Glycol Phenyl Ether to the List**

The Dow Chemical Company, an exporter of ethylene glycol phenyl ether, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add ethylene glycol phenyl ether to the List. According to the petition, the taxable chemicals ethylene, benzene, and propylene constitute 76.00 percent by weight of the materials used to produce ethylene glycol phenyl ether, based on the predominant method of production.

(a) *Determination.* Ethylene glycol phenyl ether is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Ethylene glycol phenyl ether ( $C_8H_{10}O_2$ ) is produced by the alkoxylation process using phenol ( $CH_3OH$ ) and ethylene oxide ( $C_2H_4O$ ). Ethylene oxide is made by oxidizing ethylene ( $C_2H_4$ ). Phenol is made via the Hock process (sometimes called the cumene process). The Hock process has two stages. In stage 1, benzene ( $C_6H_6$ ) is alkylated with propylene ( $C_3H_6$ ) to make cumene (isopropyl benzene). In stage 2, cumene ( $C_6H_5(C_3H_7)$ ) is partially oxidized to make phenol ( $C_6H_5OH$ ) and side product dimethyl ketone ( $((CH_3)_2CHO)$ ).

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The ethylene glycol phenyl ether petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71785) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals ethylene, benzene, and propylene constitute more than 20 percent by weight of the materials used in the production of ethylene glycol phenyl ether, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of ethylene glycol phenyl ether to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$10.42 per ton. The conversion factors for the taxable chemicals used in the production of ethylene glycol phenyl ether are 0.20 for ethylene, 0.57 for benzene, and 0.30 for propylene. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.20 \times \$9.74) + (0.57 \times \$9.74) + (0.30 \times \$9.74) = \$10.42)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *Schedule B number:* 2909.49.0000

(ii) *CAS number:* 122-99-6

(2) *The Secretary is unable to confirm the following proposed classification number:*

*HTSUS number:* 2909.49.60.00

## **X. Determination to Add Methoxytriglycol to the List**

The Dow Chemical Company, an exporter of methoxytriglycol, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add methoxytriglycol to the List. According to the petition, the taxable chemicals ethylene and methane constitute 60.00 percent by weight of the materials used to produce methoxytriglycol, based on the predominant method of production.

(a) *Determination.* Methoxytriglycol is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Methoxytriglycol (C<sub>7</sub>H<sub>16</sub>O<sub>4</sub>) is produced by the alkoxylation process using methanol (CH<sub>3</sub>OH) and 3 equivalents of ethylene oxide (C<sub>2</sub>H<sub>4</sub>O). Methanol is made from syngas (carbon monoxide and dihydrogen). Carbon monoxide (CO) and dihydrogen (H<sub>2</sub>) are made by steam-methane reforming (CH<sub>4</sub> and H<sub>2</sub>O). Ethylene oxide (EO) is made from oxidizing ethylene (C<sub>2</sub>H<sub>4</sub>). Additional information on the production process is as follows:

(i) The methoxytriglycol reaction (methanol + EO) is base catalyzed, using a small amount of metal hydroxide to produce methoxide. Since the amount of metal

hydroxide used to produce methoxytriglycol<sup>4</sup> is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(ii) Once methoxide is made, it is regenerated following conversion to the product in the presence of EO as follows:

(A) Methoxide + 3 EO → methoxytriglycol- alkoxide

(B) Methoxytriglycol-alkoxide + methanol → methoxytriglycol + methoxide (goes back to participate in the reaction above).

(iii) Regenerated methoxide in the presence of EO will perpetually react until all EO is consumed or the reaction is halted through the use of controls.

(2) *Stoichiometric material consumption equation:*

$3 \text{ C}_2\text{H}_4 \text{ (ethylene)} + 1.5 \text{ O}_2 \text{ (oxygen)} + \text{CH}_4 \text{ (methane)} + \text{H}_2\text{O (water)} \rightarrow \text{H}_2 \text{ (hydrogen)} + \text{C}_7\text{H}_{16}\text{O}_4 \text{ (methoxytriglycol)}$

(3) *Reasons for the determination:* The methoxytriglycol petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71789) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals ethylene and methane constitute more than 20 percent by weight of the materials used in the production of methoxytriglycol, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL**

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<sup>4</sup> The Notice of Filing erroneously stated, “Since the amount of metal hydroxide used to produce propylene glycol methyl ether...” This error is corrected here.

## **REGISTER].**

(5) *Effective dates for addition of methoxytriglycol to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$5.66 per ton. The conversion factors for the taxable chemicals used in the production of methoxytriglycol are 0.51 for ethylene and 0.10 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.51 \times \$9.74) + (0.10 \times \$6.88) = \$5.66)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2909.49.6000

(ii) *Schedule B number:* 2922.17.0000

(iii) *CAS number:* 112-35-6

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XI. Determination to Add Propylene Glycol Methyl Ether Acetate to the List**

The Dow Chemical Company, an importer and exporter of propylene glycol methyl ether acetate, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add propylene glycol methyl ether acetate to the List. According to the petition, the taxable chemicals propylene, chlorine, sodium hydroxide, and methane constitute 93.00 percent by weight of the materials used to produce propylene glycol

methyl ether acetate, based on the predominant method of production.

(a) *Determination.* Propylene glycol methyl ether acetate is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Propylene glycol methyl ether acetate is made by esterification of propylene glycol methyl ether and acetic acid. Propylene glycol methyl ether is made via the alkoxylation process (also known as ring opening of an epoxide) using methanol and propylene oxide. Methanol is made from syngas (carbon monoxide and dihydrogen). Carbon monoxide (CO) and dihydrogen (H<sub>2</sub>) are made by steam-methane reforming (CH<sub>4</sub> and H<sub>2</sub>O). Propylene oxide is made by hydrochlorination (chlorine (Cl<sub>2</sub>), propylene (C<sub>3</sub>H<sub>6</sub>), and sodium hydroxide (NaOH)). Acetic acid is made via the carbonylation of methanol with carbon monoxide. Additional information on the production process is as follows:

(i) The propylene glycol methyl ether alkoxylation reaction (methanol + propylene oxide) is base catalyzed, using a small amount of metal hydroxide to produce methoxide. Once methoxide is made, it is regenerated following conversion to the product in the presence of propylene oxide. Regenerated methoxide in the presence of propylene oxide will perpetually react until all propylene oxide is consumed or the reaction is halted through the use of controls. Since the amount of metal hydroxide used to produce propylene glycol methyl ether acetate<sup>5</sup> is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(ii) After the production of methanol from syngas, methanol is reacted with CO to

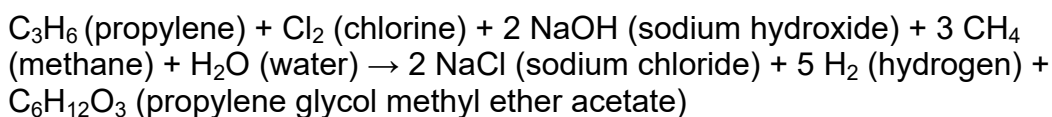
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<sup>5</sup> The Notice of Filing erroneously stated, "Since the amount of metal hydroxide used to produce propylene glycol methyl ether is very small..." This error is corrected here.

produce acetic acid. This process is commonly referred to as carbonylation. The reaction is typically catalyzed by either a rhodium or iridium-based catalyst and involves iodomethane as a key intermediate.

(iii) Acetic acid when combined with propylene glycol methyl under specific conditions (temperature, pressure, pH, etc.) produces propylene glycol methyl ether acetate. This reaction is commonly known as esterification (or Fischer esterification). Esterification typically involves a basic or acid catalytic species and can generate water or an aqueous hydroxide as byproduct depending on the pH. Once the final reaction contents are dehydrated and separated, commercial grade propylene glycol methyl ether acetate is obtained.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The propylene glycol methyl ether acetate petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71789) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals propylene, chlorine, sodium hydroxide, and methane constitute more than 20 percent by weight of the materials used in the production of propylene glycol methyl ether acetate, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of propylene glycol methyl ether acetate to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$8.85 per ton. The conversion factors for the taxable chemicals used in the production of propylene glycol methyl ether acetate are 0.32 for propylene, 0.54 for chlorine, 0.61 for sodium hydroxide, and 0.36 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.32 \times \$9.74) + (0.54 \times \$5.40) + (0.61 \times \$0.56) + (0.36 \times \$6.88) = \$8.85)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2915.39.90.00

(ii) *Schedule B number:* 2915.39.9500

(iii) *CAS number:* 108-65-6

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XII. Determination to Add Propylene Glycol Methyl Ether to the List**

The Dow Chemical Company, an importer and exporter of propylene glycol methyl ether, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to



add propylene glycol methyl ether to the List. According to the petition, the taxable chemicals propylene, chlorine, sodium hydroxide, and methane constitute 100.00 percent by weight of the materials used to produce propylene glycol methyl ether, based on the predominant method of production.

(a) *Determination.* Propylene glycol methyl ether is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Propylene glycol methyl ether is made via the alkoxylation process (also known as ring opening of an epoxide) using methanol and propylene oxide. Methanol is made from syngas (carbon monoxide and dihydrogen). Carbon monoxide (CO) and dihydrogen (H<sub>2</sub>) are made by steam-methane reforming (CH<sub>4</sub> and H<sub>2</sub>O). Propylene oxide is made by hydrochlorination (chlorine (Cl<sub>2</sub>), propylene (C<sub>3</sub>H<sub>6</sub>), and sodium hydroxide (NaOH)). Additional information on the production process is as follows:

(i) The propylene glycol methyl ether alkoxylation reaction (methanol + propylene oxide) is base catalyzed, using a small amount of metal hydroxide to produce methoxide. Once methoxide is made, it is regenerated following conversion to the product in the presence of propylene oxide. Regenerated methoxide in the presence of propylene oxide will perpetually react until all propylene oxide is consumed or the reaction is halted through the use of controls.

(ii) Since the amount of metal hydroxide used to produce propylene glycol methyl ether is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(2) *Stoichiometric material consumption equation:*

$\text{C}_3\text{H}_6$  (propylene) +  $\text{Cl}_2$  (chlorine) + 2 NaOH (sodium hydroxide) +  $\text{CH}_4$  (methane)  
→  $\text{C}_4\text{H}_{10}\text{O}_2$  (propylene glycol methyl ether) + 2 NaCl (sodium chloride) +  $\text{H}_2$  (hydrogen)

(3) *Reasons for the determination:* The propylene glycol methyl ether petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71784) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals propylene, chlorine, sodium hydroxide, and methane constitute more than 20 percent by weight of the materials used in the production of propylene glycol methyl ether, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of propylene glycol methyl ether to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$10.58 per ton. The conversion factors for the taxable chemicals used in the production of propylene glycol methyl ether are for 0.47 for propylene, 0.79 for chlorine, 0.89 for sodium hydroxide, and 0.18 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.47 \times \$9.74) + (0.79 \times$

$\$5.40) + (0.89 \times \$0.56) + (0.18 \times \$6.88) = \$10.58).$

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2909.49.6000

(ii) *Schedule B number:* 2909.49.0000

(iii) *CAS number:* 107-98-2

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

### **XIII. Determination to Add Propylene Glycol N-Propyl Ether to the List**

The Dow Chemical Company, an importer and exporter of propylene glycol n-propyl ether, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add propylene glycol n-propyl ether to the List. According to the petition, the taxable chemicals propylene, chlorine, sodium hydroxide, ethylene, and methane constitute 100.00 percent by weight of the materials used to produce propylene glycol n-propyl ether, based on the predominant method of production.

(a) *Determination.* Propylene glycol n-propyl ether is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Propylene glycol n-propyl ether is produced via the alkoxylation process (also known as ring opening of an epoxide) using n-propylene and propylene oxide. Propylene oxide is made by hydrochlorination (chlorine, propylene, NaOH). The n-propanol is manufactured by catalytic hydrogenation of propionaldehyde (hydrogen (H<sub>2</sub>) + propionaldehyde (CH<sub>3</sub>CH<sub>2</sub>CHO)). Propionaldehyde is produced by hydroformulation of ethylene (C<sub>2</sub>H<sub>4</sub>)

using carbon monoxide (CO). The n-propanol is made by hydrogenating propionaldehyde in the presence of a catalyst. Additional information on the production process is as follows:

(i) The propylene glycol n-propyl ether alkoxylation reaction (n-propanol + propylene oxide) is base catalyzed, using a small amount of metal hydroxide to produce methoxide. Once propoxide is made, it is regenerated following conversion to the product in the presence of propylene oxide. Regenerated propoxide in the presence of propylene oxide will perpetually react until all propylene oxide is consumed or the reaction is halted through the use of controls.

(ii) Since the amount of metal hydroxide used to produce propylene glycol n-propyl ether is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(2) *Stoichiometric material consumption equation:*

$$\text{C}_3\text{H}_6 \text{ (propylene)} + \text{Cl}_2 \text{ (chlorine)} + 2 \text{ NaOH (sodium hydroxide)} + \text{C}_2\text{H}_4 \text{ (ethylene)} + \text{CH}_4 \text{ (methane)} \rightarrow 2 \text{ NaCl (sodium chloride)} + \text{H}_2 \text{ (hydrogen)} + \text{C}_6\text{H}_{14}\text{O}_2 \text{ (propylene glycol n-propyl ether)}$$

(3) *Reasons for the determination:* The propylene glycol n-propyl ether petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71791) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals propylene, chlorine, sodium hydroxide, ethylene, and methane constitute more than 20 percent by weight of the materials used in the production of propylene glycol n-propyl ether, based on the

predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of propylene glycol n-propyl ether to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$10.43 per ton. The conversion factors for the taxable chemicals used in the production of propylene glycol n-propyl ether are for 0.36 for propylene, 0.60 for chlorine, 0.68 for sodium hydroxide, 0.24 for ethylene, and 0.14 for methane. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.36 \times \$9.74) + (0.60 \times \$5.40) + (0.68 \times \$0.56) + (0.24 \times \$9.74) + (0.14 \times \$6.88) = \$10.43)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2909.49.60.00

(ii) *Schedule B number:* 2909.49.0000

(iii) *CAS number:* 1569-01-3

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

#### **XIV. Determination to Add Propylene Glycol Phenyl Ether to the List**

The Dow Chemical Company, an importer and exporter of propylene glycol phenyl ether, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add propylene glycol phenyl ether to the List. According to the petition, the taxable chemicals propylene, chlorine, sodium hydroxide, and benzene constitute 91.00 percent by weight of the materials used to produce propylene glycol phenyl ether, based on the predominant method of production.

(a) *Determination.* Propylene glycol phenyl ether is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* Glycol ethers are predominantly produced by reacting an epoxide (typically ethylene oxide or propylene oxide) with an alcohol; this reaction process is referred to as alkoxylation. Propylene glycol phenyl ether is made via the alkoxylation process (also known as ring opening of an epoxide) using phenol and propylene oxide. Propylene oxide is made by hydrochlorination (chlorine ( $\text{Cl}_2$ ), propylene ( $\text{C}_3\text{H}_6$ ), and sodium hydroxide ( $\text{NaOH}$ )). Phenol is made via the Hock process (sometimes called the cumene process). The Hock process has two stages. In stage 1, benzene ( $\text{C}_6\text{H}_6$ ) is alkylated with propylene ( $\text{C}_3\text{H}_6$ ) to make cumene (isopropyl benzene). In stage 2, cumene ( $\text{C}_6\text{H}_5(\text{C}_3\text{H}_7)$ ) is partially oxidized to make phenol ( $\text{C}_6\text{H}_5\text{OH}$ ) and side product dimethyl ketone ( $(\text{CH}_3)_2\text{CHO}$ ). Additional information on the production process is as follows:

(i) The propylene glycol phenyl ether alkoxylation reaction (phenol + propylene oxide) is base catalyzed, using a small amount of metal hydroxide. Once phenoxide is made, it is regenerated following conversion to the product in the presence of propylene oxide. Regenerated phenoxide in the presence of propylene oxide will perpetually react until all propylene oxide is consumed or the reaction is halted through the use of controls.

(ii) Since the amount of metal hydroxide used to produce propylene glycol phenyl

ether is very small, the metal hydroxide has been excluded from the stoichiometric material consumption equation; including the metal hydroxide would lead to a distorted conversion factor.

(2) *Stoichiometric material consumption equation:*

$2 \text{ C}_3\text{H}_6 \text{ (propylene)} + \text{Cl}_2 \text{ (chlorine)} + 2 \text{ NaOH (sodium hydroxide)} + \text{C}_6\text{H}_6 \text{ (benzene)} + \text{O}_2 \text{ (oxygen)} \rightarrow 2 \text{ NaCl (sodium chloride)} + \text{H}_2\text{O (water)} + (\text{CH}_3)_2\text{CO (dimethyl ketone)} + \text{C}_9\text{H}_{12}\text{O}_2 \text{ (propylene glycol phenyl ether)}$

(3) *Reasons for the determination:* The propylene glycol phenyl ether petition was filed on June 13, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 71786) on September 3, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals propylene, chlorine, sodium hydroxide, and benzene constitute more than 20 percent by weight of the materials used in the production of propylene glycol phenyl ether, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of propylene glycol phenyl ether to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$13.16 per ton. The conversion factors

for the taxable chemicals used in the production of propylene glycol phenyl ether are 0.55 for propylene, 0.47 for chlorine, 0.53 for sodium hydroxide, and 0.51 for benzene. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.55 \times \$9.74) + (0.47 \times \$5.40) + (0.53 \times \$0.56) + (0.51 \times \$9.74) = \$13.16)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2909.49.15.00

(ii) *Schedule B number:* 2909.49.0000

(iii) *CAS number:* 770-35-4

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XV. Determination to Add Di-Isobutyl Carbinol to the List**

ALTIVIA Ketones & Additives, LLC, an exporter of di-isobutyl carbinol, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add di-isobutyl carbinol to the List. According to the petition, the taxable chemical propylene constitutes 87.51 percent by weight of the materials used to produce di-isobutyl carbinol, based on the predominant method of production.

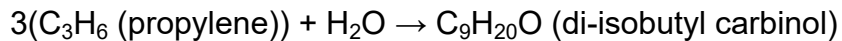
(a) *Determination.* Di-isobutyl carbinol is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant method of production is aldol condensation of acetone. Aldol condensation is a two-step process in which an aldol reaction forms an aldol product and a dehydration reaction removes water to form the final product. The process uses acetone in condensation, dehydration, and hydrogenation steps. Acetone is passed over a strong base catalyst to form diacetone



alcohol, then dehydrated to mesityl oxide, and subsequently hydrogenated to methyl isobutyl ketone. Generally, the process forms co-produced methyl isobutyl ketone, methyl isobutyl carbinol, di-isobutyl ketone and, to a lesser extent, di-isobutyl carbinol.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The di-isobutyl carbinol petition was filed on September 23, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 94878) on November 29, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical propylene constitutes more than 20 percent by weight of the materials used in the production of di-isobutyl carbinol, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of di-isobutyl carbinol to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* January 1, 2024

(6) *Tax rate prescribed by the Secretary:* \$8.57 per ton. The conversion factor for the propylene used in the production of di-isobutyl carbinol is 0.88. The tax rate is

calculated by multiplying the conversion factor by the tax rate for propylene (0.88 x \$9.74 = \$8.57).

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2905.19.9090

(ii) *Schedule B number:* 2905.19.9095

(iii) *CAS number:* 108-82-7

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XVI. Determination to Add Di-Isobutyl Ketone to the List**

ALTIVIA Ketones & Additives, LLC, an exporter of di-isobutyl ketone, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add di-isobutyl ketone to the List. According to the petition, the taxable chemical propylene constitutes 87.51 percent by weight of the materials used to produce di-isobutyl ketone, based on the predominant method of production.

(a) *Determination.* Di-isobutyl ketone is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant method of production is aldol condensation of acetone. Aldol condensation is a two-step process in which an aldol reaction forms an aldol product and a dehydration reaction removes water to form the final product. The process uses acetone in condensation, dehydration, and hydrogenation steps. Acetone is passed over a strong base catalyst to form diacetone alcohol, then dehydrated to mesityl oxide, and subsequently hydrogenated to methyl isobutyl ketone. Generally, the process forms co-produced methyl isobutyl ketone, methyl isobutyl carbinol, di-isobutyl ketone and, to a lesser extent, di-isobutyl carbinol.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The di-isobutyl ketone petition was filed on September 23, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 94879) on November 29, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical propylene constitutes more than 20 percent by weight of the materials used in the production of di-isobutyl ketone, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of di-isobutyl ketone to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* January 1, 2024

(6) *Tax rate prescribed by the Secretary:* \$8.67 per ton. The conversion factor for the propylene used in the production of di-isobutyl ketone is 0.89. The tax rate is calculated by multiplying the conversion factor by the tax rate for propylene:  $(0.89 \times \$9.74 = \$8.67)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2914.19.0000

(ii) *Schedule B number:* 2914.19.0000

(iii) *CAS number:* 108-83-8

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XVII. Determination to Add Methyl Isobutyl Carbinol to the List**

ALTIVIA Ketones & Additives, LLC, an exporter of methyl isobutyl carbinol, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add methyl isobutyl carbinol to the List. According to the petition, the taxable chemical propylene constitutes 82.36 percent by weight of the materials used to produce methyl isobutyl carbinol, based on the predominant method of production.

(a) *Determination.* Methyl isobutyl carbinol is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant method of production is aldol condensation of acetone. Aldol condensation is a two-step process in which an aldol reaction forms an aldol product and a dehydration reaction removes water to form the final product. The process uses acetone in condensation, dehydration, and hydrogenation steps. Acetone is passed over a strong base catalyst to form diacetone alcohol, then dehydrated to mesityl oxide, and subsequently hydrogenated to methyl isobutyl ketone. Generally, the process forms co-produced methyl isobutyl ketone, methyl isobutyl carbinol, di-isobutyl ketone and, to a lesser extent, di-isobutyl carbinol.

(2) *Stoichiometric material consumption equation:*



(3) *Reasons for the determination:* The methyl isobutyl carbinol petition was filed

on September 23, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (89 FR 94877) on November 29, 2024. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical propylene constitutes more than 20 percent by weight of the materials used in the production of methyl isobutyl carbinol, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of methyl isobutyl carbinol to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* January 1, 2024

(6) *Tax rate prescribed by the Secretary:* \$7.99 per ton. The conversion factor for the propylene used in the production of methyl isobutyl carbinol is 0.82. The tax rate is calculated by multiplying the conversion factor by the tax rate for propylene:  $(0.82 \times \$9.74 = \$7.99)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2905.19.9090

(ii) *Schedule B number*: 2905.19.9095

(iii) *CAS number*: 108-11-2

(2) *The Secretary is unable to confirm the following proposed classification numbers*: Not applicable.

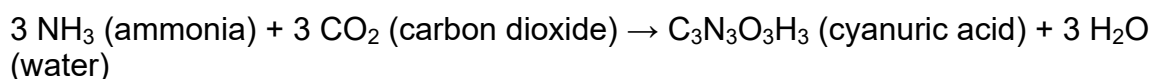
## **XVIII. Determination to Add Cyanuric Acid to the List**

Occidental Chemical Corporation, an interested person in cyanuric acid, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add cyanuric acid to the List. According to the petition, the taxable chemical ammonia constitutes 27.90 percent by weight of the materials used to produce cyanuric acid, based on the predominant method of production.

(a) *Determination*. Cyanuric acid is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production*: The predominant process for the manufacture of cyanuric acid is using urea thermal decomposition to produce cyanuric acid.

(2) *Stoichiometric material consumption equation*:



(3) *Reasons for the determination*: The cyanuric acid petition was filed on November 25, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (90 FR 7246) on January 21, 2025. The Treasury Department and the IRS received one written comment, discussed below, in response to the notice of filing. A public hearing was neither requested nor held.

The commenter asserts that the notice did not give a reason to add the substance to the List and inquires “[w]hy would a long-term product be added...if it’s already in production at a chemical plant for distribution.” It is not clear to the Treasury Department and the IRS what is the significance of a “long-term product.” Regardless,

the commenter did not demonstrate that cyanuric acid does not meet the weight or value test under section 4672(a)(2)(B). Under section 4672(a)(2)(b) and (4) and (b)(2), the Secretary is required to add a substance to the List if the Secretary determines that any taxable chemicals used to produce the substance meet the weight or value test. The petition represented and the Secretary determined that a taxable chemical constitutes more than 20 percent by weight of the materials used in the production of cyanuric acid, based on the predominant method of production. For this reason, the Treasury Department and the IRS decline to adopt any change to this determination based on the public comment.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical ammonia constitutes more than 20 percent by weight of the materials used in the production of cyanuric acid, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of cyanuric acid to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* October 1, 2024

(6) *Tax rate prescribed by the Secretary:* \$2.11 per ton. The conversion factor for the ammonia used in the production of cyanuric acid is 0.40. The tax rate is calculated by multiplying the conversion factor by the tax rate for ammonia:  $(0.40 \times$

\$5.28 = \$2.11).

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2933.69.6050

(ii) *Schedule B number:* 2933.69.0000

(iii) *CAS number:* 108-80-5

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XIX. Determination to Add Potassium Bicarbonate to the List**

Occidental Chemical Corporation, an exporter of potassium bicarbonate, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add potassium bicarbonate to the List. According to the petition, the taxable chemical potassium hydroxide constitutes 56.04 percent by weight of the materials used to produce potassium bicarbonate, based on the predominant method of production.

(a) *Determination.* Potassium bicarbonate is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant process for the manufacture of potassium bicarbonate is absorption of CO<sub>2</sub> with potassium hydroxide. The predominant process for carbonate manufacture is absorption of CO<sub>2</sub> with alkaline liquid. This substance is produced as a pure component, not a mixture.

(2) *Stoichiometric material consumption equation:*

CO<sub>2</sub> (carbon dioxide) + KOH (potassium hydroxide) → HKCO<sub>3</sub> (potassium bicarbonate)

(3) *Reasons for the determination:* The potassium bicarbonate petition was filed on November 25, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (90 FR 7245) on January 21, 2025.



The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical potassium hydroxide constitutes more than 20 percent by weight of the materials used in the production of potassium bicarbonate, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of potassium bicarbonate to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$0.25 per ton. The conversion factor for the potassium hydroxide used in the production of potassium bicarbonate is 0.56. The tax rate is calculated by multiplying the conversion factor by the tax rate for potassium hydroxide:  $(0.56 \times \$0.44 = \$0.25)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2836.40.2000

(ii) *Schedule B number:* 2836.40.0000

(iii) *CAS number:* 298-14-6

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XX. Determination to Add Potassium Carbonate to the List**

Occidental Chemical Corporation, an exporter of potassium carbonate, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add potassium carbonate to the List. According to the petition, the taxable chemical potassium hydroxide constitutes 71.83 percent by weight of the materials used to produce potassium carbonate, based on the predominant method of production.

(a) *Determination.* Potassium carbonate is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant process for the manufacture of potassium carbonate is absorption of CO<sub>2</sub> with KOH. The predominant process for carbonate manufacture is absorption of CO<sub>2</sub> with alkaline liquid. This substance is produced as a pure component, not a mixture.

(2) *Stoichiometric material consumption equation:*

CO<sub>2</sub> (carbon dioxide) + 2 KOH (potassium hydroxide) → K<sub>2</sub>CO<sub>3</sub> (potassium carbonate) + H<sub>2</sub>O (water)

(3) *Reasons for the determination:* The potassium carbonate petition was filed on November 25, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (90 FR 7247) on January 21, 2025. The Treasury Department and the IRS received two written comments, discussed below, in response to the notice of filing. A public hearing was neither requested nor held.

One public comment asserted that potassium carbonate does “not pose any significant health or environmental risks,” objected to the weight or value test of section 4672(a)(2)(B), and urged the Secretary to exercise discretion when determining whether a substance poses a significant danger that warrants imposing the tax under section

4671. Another public comment inquired about the effects of potassium carbonate and asserted that “[t]he most important thing is to avoid any type of exposure to the chemical as it can cause severe damage.” Neither comment demonstrated whether potassium carbonate meets the weight or value test under section 4672(a)(2)(B). Under section 4672(a)(2)(b) and (4) and (b)(2), the Secretary is required to add a substance to the List if the Secretary determines that any taxable chemicals used to produce the substance meet the weight or value test. Congress did not give the Secretary discretion to determine whether a substance poses significant health or environmental risks or otherwise poses a significant danger. The petition represented and the Secretary determined that a taxable chemical constitutes more than 20 percent by weight of the materials used in the production of potassium carbonate, based on the predominant method of production. For this reason, the Treasury Department and the IRS decline to adopt the suggestions of these public comments.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemical potassium hydroxide constitutes more than 20 percent by weight of the materials used in the production of potassium carbonate, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER].**

(5) *Effective dates for addition of potassium carbonate to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc.*

2023-20): July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$0.36 per ton. The conversion factor for the potassium hydroxide used in the production of potassium carbonate is 0.81. The tax rate is calculated by multiplying the conversion factor by the tax rate for potassium hydroxide:  $(0.81 \times \$0.44 = \$0.36)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2836.40.1000

(ii) *Schedule B number:* 2836.40.0000

(iii) *CAS number:* 584-08-7

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

## **XXI. Determination to Add Sodium Chlorite to the List**

Occidental Chemical Corporation, an exporter of sodium chlorite, submitted a petition in accordance with Rev. Proc. 2022-26 requesting to add sodium chlorite to the List. According to the petition, the taxable chemicals chlorine and sodium hydroxide constitute 75.87 percent by weight of the materials used to produce sodium chlorite, based on the predominant method of production.

(a) *Determination.* Sodium chlorite is added to the list of taxable substances under section 4672(a). Other pertinent information is as follows:

(1) *Predominant method of production:* The predominant process for the manufacture of sodium chlorite is electrolytic production of  $\text{NaClO}_3$  followed by hydrochlorination with wet acid with byproduct chlorine and hydrogen used in the manufacture of acid. This substance is produced as a pure component, not a mixture, though it may be sold as an aqueous liquid.

(2) *Stoichiometric material consumption equation:*

$2 \text{ Cl}_2 \text{ (chlorine)} + 4 \text{ NaOH (sodium hydroxide)} + 3 \text{ O}_2 \text{ (oxygen)} \rightarrow 4 \text{ NaClO}_2 \text{ (sodium chlorite)} + 2 \text{ H}_2\text{O (water)}$

(3) *Reasons for the determination:* The sodium chlorite petition was filed on November 25, 2024. The notice of filing summarizing the petition and requesting comments was published in the ***Federal Register*** (90 FR 7247) on January 21, 2025. The Treasury Department and the IRS received no written comments in response to the notice of filing. A public hearing was neither requested nor held.

The Secretary followed the process in section 4672(a)(2)(B) in making this determination. A review of the stoichiometric material consumption equation and other information in the petition shows that the taxable chemicals chlorine and sodium hydroxide constitute more than 20 percent by weight of the materials used in the production of sodium chlorite, based on the predominant method of production. Therefore, the test in section 4672(a)(2)(B) is satisfied.

(4) *Date of determination:* **[INSERT DATE OF FILING WITH THE FEDERAL REGISTER]**.

(5) *Effective dates for addition of sodium chlorite to the List:*

(i) *Effective date for purposes of the section 4671 tax (see section 11.01 of Rev. Proc. 2022-26):* January 1, 2026

(ii) *Effective date for purposes of refund claims under section 4662(e) (see sections 11.02 and 11.03 of Rev. Proc. 2022-26, as modified by section 3 of Rev. Proc. 2023-20):* July 1, 2022

(6) *Tax rate prescribed by the Secretary:* \$2.35 per ton. The conversion factors for the taxable chemicals used in the production of sodium chlorite are 0.39 for chlorine and 0.44 for sodium hydroxide. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $(0.39 \times \$5.40 + 0.44 \times \$0.56 = \$2.35)$ .

(b) *Classification numbers.*

(1) *The Secretary has no basis to object to the following proposed classification numbers:*

(i) *HTSUS number:* 2828.90.0000

(ii) *Schedule B number:* 2828.90.0000

(iii) *CAS number:* 7758-19-2

(2) *The Secretary is unable to confirm the following proposed classification numbers:* Not applicable.

### **Correction to the List of Taxable Substances**

Section 4 of Notice 2021-66 includes in the initial list of taxable substances the taxable substance “sodium nitriolotriacetate monohydrate.” There is a typographical error in the spelling of this taxable substance. The correct name of this taxable substance is “sodium nitrilotriacetate monohydrate.” The tax rate for sodium nitrilotriacetate monohydrate was not previously provided by the Secretary. The tax rate prescribed by the Secretary for sodium nitrilotriacetate monohydrate is \$3.97 per ton. The conversion factors for the taxable chemicals used in the production of sodium nitrilotriacetate monohydrate are 0.25 for ammonia, 0.35 for methane, and 0.44 for sodium hydroxide. The tax rate is calculated by adding the products of the conversion factor for each taxable chemical and the tax rate for that taxable chemical:  $((0.25 \times \$5.28) + (0.35 \times \$6.88) + (0.44 \times \$0.56) = \$3.97)$ . This tax rate is effective July 1, 2022.

### **Effect on Other Documents**

Section 4 of Notice 2021-66 is modified by replacing the name “sodium nitriolotriacetate monohydrate” with “sodium nitrilotriacetate monohydrate.”

**Krishna P. Vallabhaneni,**  
*Tax Legislative Counsel.*

