Total Cray Valley
A Division of Total Petrochemicals & Refining USA, Inc.

Total Cray Valley High Risk Products

Product Risk Ranking

Under the Responsible Care® Product Safety Code, Total Petrochemicals and Refining USA, Inc. (TPRI) is responsible for ranking its products by risk and sharing information about high risk products with the public. This document serves to share basic information about the Total Cray Valley products that were determined to be high risk.

Risk is a combination of **hazard** (the innate hazardous properties of the product) and **exposure** (the potential for people and the environment to be exposed to the product). TPRI uses a process that weighs many factors to create a risk ranking for each product. Note that a ranking of "high potential for exposure" does **not** mean that TPRI believes the public is likely to be exposed to a product. It is a relative ranking against other Total Cray Valley products to identify those of highest risk.

Five Total Cray Valley products are currently categorized in the highest risk category. This document serves to inform customers, workers, and the public about those products. The products are **Dymalink® 526, PRO11125, Dimer Solution**, **Recovered Cumene**, and **Stream 15**. All of these products are distributed to a small number of industrial customers who are familiar with their hazards. These products are not intended for consumer use or public exposure. Safety Data Sheets (SDS) for all of these products can be found using Total Cray Valley's public SDS library.

Dymalink® 526

This product was determined to have **medium hazard** and **high potential for exposure**. Its hazard properties are similar to those of other Dymalink® products, but it is produced at higher volumes. Dymalink® 526 is a zinc diacrylate product produced at the Chatom, Alabama and Stratford, Connecticut production sites. It is transported by road or air in high performance packaging: fiberboard drums, large fiberboard boxes, large plastic sacks, and metal containers. It is primarily used to enhance the properties of rubber. It is a white powder with a slight acidic odor.

The primary health hazards of Dymalink® 526 are:

- severe eye damage
- potential for skin sensitization – allergic reaction
- slight toxicity if ingested

The primary physical hazard is the potential for combustible dust explosion.

More information can be found in the document "Safe Handling of Total Cray Valley Metallic Coagents" and in the SDS.

PRO11125

This product was determined to have **high hazard** and **medium potential for exposure**. PRO11125 is a liquid polymer and solvent mixture manufactured at the Grand Junction, Colorado production site. It is transported by road, air, or sea in high performance steel drums. It is primarily used in the electronics industry, and the majority of the product is exported. Its approximate composition is shown below. It is a viscous amber liquid with a hydrocarbon odor.

PRO11125 Composition

Name	CAS No	%
Styrene, butadiene, divinylbenzene polymer	9052-84-0	>= 50
Toluene	108-88-3	< 50
Styrene	100-42-5	6 - 9
Divinylbenzene	1321-74-0	< 1.1

Based on the hazards of the individual components, PRO11125 is expected to have the following health hazards:

- skin irritation (toluene, styrene)
- serious eye irritation (toluene, styrene)
- potential for skin sensitization – allergic reaction (divinylbenzene)
- suspected cancer hazard (styrene)
- suspected reproductive toxicity (toluene, divinylbenzene)
- respiratory irritation (toluene, styrene)
- drowsiness and dizziness (toluene, styrene)
- specific target organ toxicity to the brain, central nervous system, kidneys, liver, hearing sense, and color vision by long term or repeat exposure (toluene, styrene)
- aspiration hazard – fatal if liquid enters the lungs (toluene, styrene)

PRO11125 is highly flammable.

More information can be found in the SDS.

Dimer Solution

This product was determined to have **high hazard** and **high potential for exposure**. Dimer Solution is a co-product of the process used to make polybutadiene resins at the Channelview, Texas production site. It is transported by bulk truck. It is restricted to use as a fuel or fuel additive. It is a highly variable mixture of liquid substances, as shown below. It is a colorless or slightly yellow free-flowing liquid with a pungent odor.

Dimer Solution Composition

Name	CAS No	%
1,3-Butadiene, homopolymer, distillation by-products (this name describes the whole product, which is made up of the components below)	68608-57-1	100
4-vinylcyclohexene (VCH)	100-40-3	0 - 100
Water	7732-18-5	0 - 100
Isopropanol	67-63-0	0 - 50
propan-1-ol	71-23-8	0 - 20
1,3-butadiene	106-99-0	0 - 20
Acetone	67-64-1	0 - 5
1,5-Cyclooctadiene	111-78-4	0 - 5
1,2-Divinylcyclobutane	2422-85-7	0 - 5

Based on the hazards of the individual components, Dimer Solution is expected to have the following health hazards:

- skin irritation (VCH)
- serious eye damage (propan-1-ol)
- potential for skin sensitization – allergic reaction (1,5-cyclooctadiene)
- possibility of causing genetic defects (1,3-butadiene)
- cancer hazard (1,3-butadiene is listed as a known human carcinogen and VCH is listed as a suspected carcinogen)

- suspected reproductive toxicity (VCH)
- specific target organ toxicity to blood, blood forming organs, and reproductive organs by long term or repeat exposure (1,3-butadiene)
- drowsiness and dizziness (multiple components)
- aspiration hazard – fatal if liquid enters the lungs (multiple components)

Dimer Solution is expected to be highly flammable. Flammability may vary depending on composition.

More information can be found in the SDS.

Recovered Cumene

This product was determined to have **high hazard** and **high potential for exposure**. Recovered Cumene is a co-product of the process used to make styrene-maleic anhydride resins at the Channelview, Texas production site. It is transported by bulk truck. It is restricted to use as a fuel or fuel additive. It is a highly variable mixture of liquid substances, as shown below. It is a colorless free-flowing liquid with a sharp aromatic odor.

Recovered Cumene Composition

Name	CAS No	%
Cumene	98-82-8	5 - 100
2-butoxyethanol	111-76-2	0 - 95
propan-1-ol	71-23-8	0 - 95
Isopropanol	67-63-0	0 - 40
Cyclohexanol	108-93-0	0 - 30
Styrene	100-42-5	1 - 20
1-Octanol	111-87-5	0 - 15
Acetophenone	98-86-2	0 - 10
Methanol	67-56-1	< 8

Based on the hazards of the individual components, Recovered Cumene is expected to have the following health hazards:

- harmful if swallowed (multiple components)
- harmful in contact with skin (2-butoxyethanol)
- skin irritation (multiple components)
- serious eye damage (propan-1-ol)
- suspected cancer hazard (cumene, styrene)
- specific target organ toxicity to multiple organs by short term exposure (methanol) or by long term or repeat exposure (methanol, styrene)
- respiratory irritation (multiple components)
- drowsiness or dizziness (multiple components)
- aspiration hazard – fatal if liquid enters the lungs (cumene, styrene)

Recovered Cumene is flammable.

More information can be found in the SDS.

Stream 15

This product was determined to have **high hazard** and **high potential for exposure**. Stream 15 is a co-product of the process used to make hydrocarbon resins at the Beaumont, Texas production site. It is transported by bulk truck. It may be used as a fuel or its component substances may be extracted for other uses. It is a variable mixture of liquid substances, as shown below. It is a colorless free-flowing liquid with a disagreeable or nauseating hydrocarbon odor.

Stream 15 Composition

Name	CAS No	%
Hydrocarbons, C5-rich (this name describes the whole product, which is made up of the components below)	68476-55-1	100
Cyclopentene	142-29-0	30 - 50
trans-2-pentene	646-04-8	15 - 25
cis-2-Pentene	627-20-3	8 - 18
Cyclopentane	287-92-3	5 - 15
n-pentane	109-66-0	2 - 10
2-Methyl-2-butene	513-35-9	1 - 9
1,3-Pentadiene (cis & trans-piperylene)	504-60-9	0.1 - 5
Isopentane	78-78-4	0.1 - 1
Benzene	71-43-2	< 1

Based on the hazards of the individual components, Stream 15 is expected to have the following health hazards:

- harmful if swallowed (multiple components)
- skin irritation (multiple components)
- serious eye irritation (multiple components)
- possibility of causing genetic defects (benzene)
- cancer hazard (benzene)
- respiratory irritation (multiple components)
- aspiration hazard – fatal if liquid enters the lungs (multiple components)

Stream 15 is highly flammable.

More information can be found in the SDS.