



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 8/8/2017 Supersedes: 10/17/2016 Version: 11.6

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)  
CAS-No. : 9003-53-6  
Type of product : Polymers  
Formula : (C8H8)<sub>x</sub> - (C4H6)<sub>y</sub>  
Chemical structure :  
WARNING :  
FOR STACKING  
PALLETS, SEE  
SECTION 7   
Synonyms : 9003-55-8  
Product group : -

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

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Main use category : Professional use  
Use of the substance/mixture : For more detailed information, see technical data sheet

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

REFINING & CHEMICALS BRANCH  
TOTAL PETROCHEMICALS & REFINING SA/NV  
Rue de l'Industrie 52 Nijverheidsstraat - B-1040 BRUSSELS - BELGIUM  
T +32 (0)2.288.91.11  
[rc.fer-sds@total.com](mailto:rc.fer-sds@total.com) - [www.total.com](http://www.total.com)

#### 1.4. Emergency telephone number

Emergency number : Emergency call Carechem 24 International :  
• for English speaking countries: +44 (0) 1235 239 670  
• for Europe (in local languages): + 33 1 49 00 00 49  
• for Africa and Middle East: + 44 (0) 1235 239 671 • for China:  
+ 86 512 8090 3042  
• for Asia Pacific (Hong-Kong, Singapore, Taiwan, Philippines, India, Vietnam, Sri Lanka,  
Japan, Korea, Malaysia, Indonesia, Thailand) :  
+ 65 3158 1074

| Country        | Organisation/Company                                     | Address                                  | Emergency number                                                                                   | Comment |
|----------------|----------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------|---------|
| Ireland        | National Poisons Information Centre<br>Beaumont Hospital | PO Box 1297<br>Beaumont Road<br>9 Dublin | +353 1 809 2566<br>(Healthcare professionals-24/7)<br>+353 1 809 2166 (public,<br>8am - 10pm, 7/7) |         |
| United Kingdom | National Poisons Emergency number                        |                                          | 08 45 46 47                                                                                        |         |

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

the product does not present, in the form in which it is placed on the market a danger to human health or to the environment (regulation EC 1272/2008 annex I, point 1.3.4).



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 2.2. Label elements

the product does not present, in the form in which it is placed on the market a danger to human health or to the environment (regulation EC 1272/2008 annex I, point 1.3.4).

### 2.3. Other hazards

Other hazards not contributing to the classification : Fine dust may cause irritation of respiratory system and mucous. Contact with hot material - prevent serious burns. If heated to more than 200°C, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Dust may form explosive mixture in air. Combustible Dust.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name                                                                  | Product identifier                                                                                     | %       | Classification according to Regulation (EC) No. 1272/2008 [CLP]                                                                                                                                            |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High Impact Polystyrene                                               | (CAS-No.) 9003-55-8                                                                                    | 75 - 98 | Not classified                                                                                                                                                                                             |
| brominated additives<br>(Flame retardants and fire preventing agents) |                                                                                                        | < 20    | Not classified                                                                                                                                                                                             |
| antimony trioxide<br>(Flame retardants and fire preventing agents)    | (CAS-No.) 1309-64-4<br>(EC-No.) 215-175-0                                                              | < 5     | Carc. 2, H351                                                                                                                                                                                              |
| Additive                                                              |                                                                                                        | < 2     | Not classified                                                                                                                                                                                             |
| 2-(2H-benzotriazol-2-yl)-p-cresol                                     | (CAS-No.) 2440-22-4<br>(EC-No.) 219-470-5                                                              | < 1     | Skin Sens. 1, H317<br>Aquatic Chronic 1, H410                                                                                                                                                              |
| octabenzene: Methanone, [2-hydroxy-4-(octyloxy)phenyl]phenyl-         | (CAS-No.) 1843-05-6<br>(EC-No.) 217-421-2                                                              | < 1     | Skin Sens. 1, H317<br>Aquatic Chronic 3, H412                                                                                                                                                              |
| 1-phenylazo-2-naphthol                                                | (CAS-No.) 842-07-9<br>(EC-No.) 212-668-2                                                               | < 1     | Skin Sens. 1, H317<br>Muta. 2, H341<br>Carc. 2, H351<br>Aquatic Chronic 4, H413                                                                                                                            |
| Styrene<br>(Impurity)                                                 | (CAS-No.) 100-42-5<br>(EC-No.) 202-851-5<br>(EC Index-No.) 601-026-00-0<br>(REACH-no) 01-2119457861-32 | < 0.08  | Flam. Liq. 3, H226<br>Acute Tox. 4 (Inhalation), H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Repr. 2, H361d<br>STOT SE 3, H335<br>STOT RE 1, H372<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 |

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Exposure to spray, fumes and vapours produced by heated or burned product: Move to fresh air. Call a doctor.

First-aid measures after skin contact : Exposure to splashing of hot product: Treat the affected part with cold water (by spraying or immersion). Do not remove clothing adhering to the skin. In case of severe burns, seek hospital treatment.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. In case of irritation caused by fine dust: wash with copious volumes of water, until the irritation disappears.

First-aid measures after ingestion : Ingestion during handling is not likely. Do not induce vomiting. Rinse mouth out with water.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Refer to § 11 for more details on effects.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : For small fire: Carbon dioxide. Dry powder. Water. For large fire: Foam.

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO<sub>2</sub>). Aldehydes. Ketones. Hydrocarbons. Toluene. Alcohols. Styrene.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Other information : Notify fire brigade and environmental authorities. Evacuate unnecessary personnel. Use water spray to cool exposed surfaces.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Do not attempt to take action without suitable protective equipment. Gloves. Safety glasses.

#### 6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : If spilled, may cause the floor to be slippery. Sweep up or vacuum up the product. Keep recovered product for subsequent disposal. Do not allow to enter drains or water courses.

Other information : Dispose of contaminated material at an authorized site. Notify authorities if product enters sewers or public waters.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Hygiene measures : Do not eat, drink or smoke when using this product. Keep away from food and drink.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Provide local exhaust or general room ventilation. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Explosive atmospheres may result from the presence of flammable gas or from the evaporation of flammable liquids, such as some solvents. Such explosive atmospheres are likely to occur, for example, above mixers in which the product is to be added.

Storage conditions : Explosive vapour/air mixtures may be formed. store at ambient temperature and at atmospheric pressure in original packaging (plastic or cardboard boxes) or in silo made of appropriate material (aluminium, stainless steel, ...). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Proper grounding procedures to avoid static electricity should be followed. Store in dry, cool, well-ventilated area.

Special rules on packaging : three pallets must never be stacked. under normal storage conditions, and following good working practices, two pallets may be stacked on flooring in sound condition. however, when the pictorial "Do not stack" is affixed to the pallet, the pallet must never be placed either on top of or below another pallet.  
N.B. :here the term pallet includes both the pallet and its load. when pallets are stored in racks, it should be checked whether the pallet is fit for stacking in the concerned racks.

Packaging materials : Polyethylene. Paper bag. Carton. Stainless steel.

### 7.3. Specific end use(s)

Recommended to professional users.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN) (9003-53-6) |                                        |                                                                                                |
|---------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|
| USA - ACGIH                                             | ACGIH TWA (mg/m <sup>3</sup> )         | 10 mg/m <sup>3</sup> inhalable dust particles<br>3 mg/m <sup>3</sup> respirable dust particles |
| Styrene (100-42-5)                                      |                                        |                                                                                                |
| Ireland                                                 | OEL (8 hours ref) (mg/m <sup>3</sup> ) | 85 mg/m <sup>3</sup>                                                                           |
| Ireland                                                 | OEL (8 hours ref) (ppm)                | 20 ppm                                                                                         |
| Ireland                                                 | OEL (15 min ref) (mg/m <sup>3</sup> )  | 170 mg/m <sup>3</sup>                                                                          |
| Ireland                                                 | OEL (15 min ref) (ppm)                 | 40 ppm                                                                                         |
| United Kingdom                                          | WEL TWA (mg/m <sup>3</sup> )           | 430 mg/m <sup>3</sup>                                                                          |



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| Styrene (100-42-5) |                                   |                                                                                                                                                                                                                             |
|--------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| United Kingdom     | WEL TWA (ppm)                     | 100 ppm                                                                                                                                                                                                                     |
| United Kingdom     | WEL STEL (mg/m <sup>3</sup> )     | 1080 mg/m <sup>3</sup>                                                                                                                                                                                                      |
| United Kingdom     | WEL STEL (ppm)                    | 250 ppm                                                                                                                                                                                                                     |
| USA - ACGIH        | ACGIH TWA (ppm)                   | 20 ppm                                                                                                                                                                                                                      |
| USA - ACGIH        | ACGIH STEL (ppm)                  | 40 ppm                                                                                                                                                                                                                      |
| USA - ACGIH        | Biological Exposure Indices (BEI) | 400 mg/g creatinine (Medium: urine - Time: end of shift - Parameter: Mandelic acid plus phenylglyoxylic acid (nonspecific)<br>0.2 mg/l (Medium: venous blood - Time: end of shift - Parameter: Styrene (semi-quantitative)) |

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. If handling results in dust generation or high temperatures, local exhaust ventilation should be provided to insure that exposure to dust or decomposition products does not exceed the exposure recommended levels. Safety shower. Eye fountain.

#### Personal protective equipment:

Dustproof clothing. Gloves. Safety glasses. Dust formation: dust mask.

#### Hand protection:

Protective gloves. Use insulated gloves when handling this material hot

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing. Safety foot-wear

#### Respiratory protection:

Dust/aerosol mask with filter type P1

#### Personal protective equipment symbol(s):



#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                                            |                     |
|--------------------------------------------|---------------------|
| Physical state                             | : Solid             |
| Appearance                                 | : Pellet.           |
| Colour                                     | : Opaque.           |
| Odour                                      | : Mild.             |
| Odour threshold                            | : No data available |
| pH                                         | : Not applicable    |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point                              | : No data available |
| Freezing point                             | : No data available |
| Boiling point                              | : No data available |
| Flash point                                | : No data available |
| Auto-ignition temperature                  | : ≈ 490 °C          |
| Decomposition temperature                  | : < 250 °C          |
| Flammability (solid, gas)                  | : No data available |
| Vapour pressure                            | : No data available |



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Relative vapour density at 20 °C | : No data available                   |
| Relative density                 | : No data available                   |
| Density                          | : 1030 - 1180 kg/m <sup>3</sup>       |
| Solubility                       | : Water: Insoluble                    |
| Log Pow                          | : No data available                   |
| Viscosity, kinematic             | : Not applicable                      |
| Viscosity, dynamic               | : No data available                   |
| Explosive properties             | : No data available                   |
| Oxidising properties             | : No data available                   |
| Lower explosive limit (LEL)      | : 0.015 kg/m <sup>3</sup> ( < 63 µm ) |

### 9.2. Other information

|                 |               |
|-----------------|---------------|
| Softening point | : 75 - 104 °C |
| VOC content     | : < 0.5 %     |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Electrostatic charges may be generated during handling. Take precautionary measures against static discharge during blending and transfer operations.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

Dust may form explosive mixture in air.

### 10.4. Conditions to avoid

No flames, no sparks. Eliminate all sources of ignition. Avoid temperature above 250°C.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Halogens.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                             |                  |
|-----------------------------|------------------|
| Acute toxicity (oral)       | : Not classified |
| Acute toxicity (dermal)     | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

| Styrene (100-42-5)        |                         |
|---------------------------|-------------------------|
| LD50 oral rat             | 2650 mg/kg              |
| LD50 dermal rat           | > 26.4 mg/kg            |
| LC50 inhalation rat       | 11.8 mg/l/4h as a vapor |
| LC50 inhalation rat (ppm) | 2770 ppmv/4h            |

|                                   |                                                                                                                                                                                                                                                             |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin corrosion/irritation         | : Not classified (Based on available data, the classification criteria are not met)<br>pH: Not applicable                                                                                                                                                   |
| Additional information            | : Heated product causes burns<br>thermal decomposition products are produced at elevated temperatures and these may be irritating                                                                                                                           |
| Serious eye damage/irritation     | : Not classified (Based on available data, the classification criteria are not met)<br>pH: Not applicable                                                                                                                                                   |
| Additional information            | : Fine dust may cause irritation to ocular mucous<br>thermal decomposition products are produced at elevated temperatures and these may be irritating<br>Heated product causes burns                                                                        |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction.                                                                                                                                                                                                                      |
| Germ cell mutagenicity            | : Not classified                                                                                                                                                                                                                                            |
| Carcinogenicity                   | : Antimony and its oxides. inhalation of fumes, vapours and impurities is dangerous for respiratory tract. Toxic fumes may be released. Based on animal experimentation, it is proved that product has shown carcinogenic effects (Antimony and its oxides) |
| Reproductive toxicity             | : Not classified                                                                                                                                                                                                                                            |



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

|                        |                                                                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STOT-single exposure   | : Not classified                                                                                                                                                                                                                  |
| Additional information | : dust may cause irritation of respiratory system.<br>If heated to more than 200°C, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath |
| STOT-repeated exposure | : Not classified                                                                                                                                                                                                                  |
| Aspiration hazard      | : Not classified                                                                                                                                                                                                                  |

### SECTION 12: Ecological information

#### 12.1. Toxicity

|                          |                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecology - general        | : because of its structure, the product should not be dangerous for aquatic life. some components may be dangerous for aquatic or terrestrial life. |
| Acute aquatic toxicity   | : Not classified                                                                                                                                    |
| Chronic aquatic toxicity | : Not classified                                                                                                                                    |

| Styrene (100-42-5)             |                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------|
| LC50 fish 1                    | 3.24 - 4.99 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| LC50 fish 2                    | 19.03 - 33.53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])     |
| EC50 Daphnia 1                 | 3.3 - 7.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)                        |
| EC50 other aquatic organisms 1 | 1.4 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)            |
| EC50 other aquatic organisms 2 | 0.72 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)           |
| NOEC (acute)                   | 44 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])       |

#### 12.2. Persistence and degradability

| TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN) (9003-53-6) |                                              |
|---------------------------------------------------------|----------------------------------------------|
| Persistence and degradability                           | Product persists. Not readily biodegradable. |
| BOD (% of ThOD)                                         | Below detection limit                        |

#### 12.3. Bioaccumulative potential

| TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN) (9003-53-6) |                                |
|---------------------------------------------------------|--------------------------------|
| Bioaccumulative potential                               | Low bioaccumulation potential. |

| Styrene (100-42-5) |      |
|--------------------|------|
| BCF fish 1         | 13.5 |
| Log Pow            | 2.95 |

#### 12.4. Mobility in soil

| TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN) (9003-53-6) |               |
|---------------------------------------------------------|---------------|
| Ecology - soil                                          | low mobility. |

#### 12.5. Results of PBT and vPvB assessment

| TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN) (9003-53-6) |              |
|---------------------------------------------------------|--------------|
| Results of PBT assessment                               | Not required |

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

|                         |                                                                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste treatment methods | : Dispose of in accordance with relevant local regulations. Recycle the material as far as possible. Do not discharge the product into the environment. |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR                                     | IMDG           | IATA           | ADN            | RID            |
|-----------------------------------------|----------------|----------------|----------------|----------------|
| <b>14.1. UN Number</b>                  |                |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable | Not applicable |
| <b>14.2. UN proper shipping name</b>    |                |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable | Not applicable |
| <b>14.3. Transport hazard class(es)</b> |                |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable | Not applicable |
| <b>14.4. Packing Group</b>              |                |                |                |                |
| Not applicable                          | Not applicable | Not applicable | Not applicable | Not applicable |



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| ADR                                    | IMDG                                                        | IATA                               | ADN                                | RID                                |
|----------------------------------------|-------------------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <b>14.5. Environmental hazards</b>     |                                                             |                                    |                                    |                                    |
| Dangerous for the environment : No     | Dangerous for the environment : No<br>Marine Pollutant : No | Dangerous for the environment : No | Dangerous for the environment : No | Dangerous for the environment : No |
| No supplementary information available |                                                             |                                    |                                    |                                    |

### 14.6. Special precautions for user

#### - Overland transport

No data available

#### - Transport by sea (IMDG)

No data available

#### - Air transport (IATA)

No data available

#### - Inland waterway transport

No data available

#### - Rail transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : < 0.5 %

#### 15.1.2. National regulations

These registration entries are for polymers only. For additives, please refer to TOTAL who will provide the necessary certification

Complies the United States TSCA (Toxic Substances Control Act) inventory

Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the China Inventory of Existing Chemical Substances (IECSC)

Listed on the Canadian DSL (Domestic Substances List)

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Other information : Training staff on good practice. Manipulations are to be done only by qualified and authorised persons. Use good personal hygiene practices.

Full text of H- and EUH-statements:

|                           |                                                                   |
|---------------------------|-------------------------------------------------------------------|
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4                               |
| Aquatic Chronic 1         | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Aquatic Chronic 3         | Hazardous to the aquatic environment — Chronic Hazard, Category 3 |
| Aquatic Chronic 4         | Hazardous to the aquatic environment — Chronic Hazard, Category 4 |
| Asp. Tox. 1               | Aspiration hazard, Category 1                                     |
| Carc. 2                   | Carcinogenicity, Category 2                                       |
| Eye Irrit. 2              | Serious eye damage/eye irritation, Category 2                     |
| Flam. Liq. 3              | Flammable liquids, Category 3                                     |
| Muta. 2                   | Germ cell mutagenicity, Category 2                                |



# TOTAL POLYSTYRENE FLAME RETARDANT (HALOGEN)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

|               |                                                                                            |
|---------------|--------------------------------------------------------------------------------------------|
| Repr. 2       | Reproductive toxicity, Category 2                                                          |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2                                                      |
| Skin Sens. 1  | Skin sensitisation, Category 1                                                             |
| STOT RE 1     | Specific target organ toxicity — Repeated exposure, Category 1                             |
| STOT SE 3     | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H226          | Flammable liquid and vapour.                                                               |
| H304          | May be fatal if swallowed and enters airways.                                              |
| H315          | Causes skin irritation.                                                                    |
| H317          | May cause an allergic skin reaction.                                                       |
| H319          | Causes serious eye irritation.                                                             |
| H332          | Harmful if inhaled.                                                                        |
| H335          | May cause respiratory irritation.                                                          |
| H341          | Suspected of causing genetic defects.                                                      |
| H351          | Suspected of causing cancer.                                                               |
| H361d         | Suspected of damaging the unborn child.                                                    |
| H372          | Causes damage to organs through prolonged or repeated exposure.                            |
| H410          | Very toxic to aquatic life with long lasting effects.                                      |
| H412          | Harmful to aquatic life with long lasting effects.                                         |
| H413          | May cause long lasting harmful effects to aquatic life.                                    |

### SDS EU (REACH Annex II)

*This information applies to the PRODUCT AS SUCH and conforming to specifications of TOTAL.*

*In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear.*

*The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. However the revision of some data is in progress.*

*Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes.*

*The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive.*

*It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product.*

*It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product. (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.*

