

## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Page 1 of 15 Print Date 11/17/2018

# SAFETY DATA SHEET

### 10132426 PU LLDPE UV SMARTBATCH

## **Section 1. Identification**

**GHS product identifier** : 10132426 PU LLDPE UV SMARTBATCH

Chemical name: MixtureCAS number: MixtureOther means of identification: CC10132426

**Product type** : solid

Relevant identified uses of the substance or mixture and uses advised against

**Product use** : Industrial applications. Plastics.

Supplier's details : POLYONE CORPORATION

33587 Walker Road, Avon Lake, OH 44012

1 (440) 930-1000 or 1 (866) POLYONE

Emergency telephone number

(with hours of operation)

CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or

accident).

## Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard

Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and

other users of this product.

Classification of the substance or

mixture

Not classified.

**GHS** label elements

Signal word : No signal word.

1/15



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 2 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

**Hazard statements**: No known significant effects or critical hazards.

### **Precautionary statements**

General:Not applicable.Prevention:Not applicable.Response:Not applicable.Storage:Not applicable.Disposal:Not applicable.Supplemental label elements:None known.Hazards not otherwise classified:None known.

## Section 3. Composition/information on ingredients

Substance/mixture: MixtureChemical name: MixtureOther means of identification: CC10132426

### **CAS** number/other identifiers

| Ingredient name  | %       | CAS number |
|--|---------|------------|
| Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl) ester | 10 - 30 | 52829-07-9 |
|  |         |            |
|  |         |            |
| Carbon black   | 0.1 - 1 | 1333-86-4  |
|  |         |            |
|  |         |            |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### **Description of necessary first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the

upper and lower eyelids. Check for and remove any contact lenses.



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 3 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

Get medical attention if irritation occurs.

**Inhalation**: Remove victim to fresh air and keep at rest in a position comfortable

for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

surveillance for 48 hours.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated

clothing and shoes. Get medical attention if symptoms occur.

**Ingestion**: Wash out mouth with water. Remove victim to fresh air and keep at

rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by

medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

### Potential acute health effects

Eye contact: No known significant effects or critical hazards.Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms

may be delayed. The exposed person may need to be kept under

medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without

suitable training.

See toxicological information (Section 11)

## Section 5. Firefighting measures



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Page 4 of 15 Print Date 11/17/2018

### **Extinguishing media**

Suitable extinguishing media Unsuitable extinguishing media In case of fire, use water spray (fog), foam, dry chemical or  $CO_2$ .

: None known.

Specific hazards arising from the chemical

No specific fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides

Special protective actions for firefighters Promptly isolate the scene by removing all persons from the vicinity

of the incident if there is a fire. No action shall be taken involving any

personal risk or without suitable training.

**Special protective equipment for fire-fighters** 

Fire-fighters should wear appropriate protective equipment and selfcontained breathing apparatus (SCBA) with a full face-piece operated

in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without

suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note

of any information in Section 8 on suitable and unsuitable materials.

See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil,

waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil

or air).

### Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and

place in a designated, labeled waste container. Dispose of via a

licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water

courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Page 5 of 15 Print Date 11/17/2018

licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

### Precautions for safe handling

Protective measures Advice on general occupational

hygiene

Put on appropriate personal protective equipment (see Section 8).

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### **Control parameters**

## Occupational exposure limits

| Ingredient name | Exposure limits   |
|-----------------|---|
| Carbon black    | OSHA PEL 1989 (1989-03-01)                                  |
|                 | PEL: Permissible Exposure Level 3.5 mg/m3                   |
|                 | OSHA PEL (1993-06-30)                                       |
|                 | PEL: Permissible Exposure Level 3.5 mg/m3                   |
|                 | NIOSH REL (1994-06-01)                                      |
|                 | Time Weighted Average (TWA) 3.5 mg/m3                       |
|                 | Time Weighted Average (TWA)                                 |
|                 | ACGIH TLV (2010-12-06)                                      |
|                 | TLV-TWA: Threshold Limit Value - Time weighted average PEL: |
|                 | Permissible Exposure Level 3 mg/m3 Form: Inhalable fraction |
|                 |   |

Other skin protection

**Respiratory protection** 

### SAFETY DATA SHEET



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 6 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

| Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl) ester |   |   |
|--|---|---|
| Appropriate engineering controls                               | : | Good general ventilation should be sufficient to control worker exposure to airborne contaminants.  |
| Environmental exposure controls                                | : | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.  |
| <u>Individual protection measures</u>                          |   |   |
| Hygiene measures   | : | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection  | : | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.                                 |
| Skin protection  |   |   |
| Hand protection  | : | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products   |

Hand protection
 Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
 Body protection
 Personal protective equipment for the body should be selected based

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

# Section 9. Physical and chemical properties



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 7 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

#### **Appearance**

Physical state solid [Pellets.] Color **PURPLE** Odor Faint odor. **Odor threshold** Not available. Not available. рH **Melting point** Not available. **Boiling point** Not available. Flash point Not available. **Burning time** Not available. Not available. **Burning rate** Not available. **Evaporation rate** Not available. Flammability (solid, gas)

Lower and upper explosive : Lower: Not available. (flammable) limits : Upper: Not available.

Vapor pressure: Not available.Vapor density: Not available.Relative density: Not available.Solubility: Not available.Solubility in water: insoluble in water.

Partition coefficient: n-

octanol/water

Auto-ignition temperature: Not available.Decomposition temperature: Not available.SADT: Not available.

Viscosity : Dynamic: Not available.

**Kinematic:** Not available.

## Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or

its ingredients.

Not available.

Chemical stability : Stable under recommended storage and handling conditions (see

Section 7).

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will

not occur.

**Conditions to avoid** : Keep away from extreme heat and oxidizing agents.

**Incompatible materials** : Keep away from strong acids.

Oxidizer.

**Hazardous decomposition** 

products

: Under normal conditions of storage and use, hazardous decomposition

products should not be produced.



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 8 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

## Section 11. Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

### **Information on toxicological effects**

### **Acute toxicity**

| Product/ingredient name  | Result    | Species | Dose         | Exposure |
|--|-----------|---------|--------------|----------|
| Carbon black   |           |         |              |          |
|  | LD50 Oral | Rat     | 15,400 mg/kg | -        |
| Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl) ester |           |         |              |          |

**Conclusion/Summary**: Mixture. Not fully tested.

### **Irritation/Corrosion**

Conclusion/Summary

Skin: Mixture.Not fully tested.Eyes: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

**Sensitization** 

**Conclusion/Summary** 

Skin: Mixture.Not fully tested.Respiratory: Mixture.Not fully tested.

**Mutagenicity** 

**Conclusion/Summary** : Mixture.Not fully tested.

**Carcinogenicity** 

Conclusion/Summary : Mixture.Not fully tested.

Classification

| ٠ | Product/ingredient | OSHA | IARC | NTP |
|---|--------------------|------|------|-----|
|   | name               |      |      |     |
|   | Carbon black       |      | 2B   |     |

### **Reproductive toxicity**

**Conclusion/Summary** : Mixture.Not fully tested.

### **Teratogenicity**



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 9 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

**Conclusion/Summary**: Mixture.Not fully tested.

**Specific target organ toxicity (single exposure)** 

Not available.

**Specific target organ toxicity (repeated exposure)** 

Not available.

**Aspiration hazard** 

Not available.

Information on likely routes of

exposure

Not available.

Potential acute health effects

Eye contact: No known significant effects or critical hazards.Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data.Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Short term exposure** 

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects: Not available.Potential delayed effects: Not available.

**Potential chronic health effects** 

**Conclusion/Summary** : Mixture. Not fully tested.

**General** : No known significant effects or critical hazards.

9/15



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 10 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

Carcinogenicity: No known significant effects or critical hazards.Mutagenicity: No known significant effects or critical hazards.Teratogenicity: No known significant effects or critical hazards.Developmental effects: No known significant effects or critical hazards.Fertility effects: No known significant effects or critical hazards.

### **Numerical measures of toxicity**

### **Acute toxicity estimates**

Not available.

# Section 12. Ecological information

### **Toxicity**

| Product/ingredient name         | Result   | Species                | Exposure |
|---------------------------------|--|------------------------|----------|
| Carbon black                    |  |                        |          |
|                                 | Acute EC50 37.563 mg/l Fresh   | Aquatic invertebrates. | 48 h     |
|                                 | water  | Daphnia                |          |
|                                 | Acute LC50 61.547 mg/l Fresh   | Aquatic invertebrates. | 48 h     |
|                                 | water  | Daphnia                |          |
| Decanedioic acid, bis(2,2,6,6-  | tetramethyl-4-piperidinyl) ester   |                        |          |
|                                 | Acute LC50 4.4 Mg/l  | Fish - Bluegill        | 96 h     |
|                                 | Acute EC50 8.6 Mg/l Fresh water  | Aquatic invertebrates. | 48 h     |
|                                 |  | Daphnia                |          |
|                                 | Acute EC50 0.705 Mg/l  | Aquatic plants - Green | 72 h     |
|                                 |  | algae                  |          |
| 10132426 PU LLDPE UV SMARTBATCH |  |                        |          |
| Remarks - Acute - Aquatic       | Chemicals are not readily available as they are bound within the polymer matrix. |                        |          |
| invertebrates.:                 |  |                        |          |

**Conclusion/Summary** : Chemicals are not readily available as they are bound within the polymer matrix.

### Persistence and degradability

**Conclusion/Summary**: Chemicals are not readily available as they are bound within the

polymer matrix.

**Conclusion/Summary**: Chemicals are not readily available as they are bound within the

polymer matrix.



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 11 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

**Bioaccumulative potential** 

| Product/ingredient name    | LogPow | BCF | Potential |
|----------------------------|--------|-----|-----------|
| Decanedioic acid,          | 0.35   | •   | low       |
| bis(2,2,6,6-tetramethyl-4- |        |     |           |
| piperidinyl) ester         |        |     |           |

### **Mobility in soil**

Soil/water partition coefficient

(KOC)

: Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** 

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

## Section 14. Transport information

U.S.DOT 49CFR Ground/Air/Water : Not regulated for transportation.

International Air ICAO/IATA

: Not classified as dangerous goods under transport regulations.

International Water IMO/IMDG

: Not classified as dangerous goods under transport regulations.



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Page 12 of 15 Print Date 11/17/2018

# Section 15. Regulatory information

U.S. Federal regulations

United States - TSCA 12(b) - Chemical export notification: None

of the components are listed.

United States - TSCA 4(a) - Final Test Rules: Not listed
United States - TSCA 4(a) - ITC Priority list: Not listed
United States - TSCA 4(a) - Proposed test rules: Not listed
United States - TSCA 4(f) - Priority risk review: Not listed
United States - TSCA 5(a)2 - Final significant new use rules: Not

United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed

United States - TSCA 5(e) - Substances consent order: Not listed United States - TSCA 6 - Final risk management: Not listed United States - TSCA 6 - Proposed risk management: Not listed United States - TSCA 8(a) - Chemical risk rules: Not listed United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined

United States - TSCA 8(a) - Preliminary assessment report (PAIR): Not listed

United States - TSCA 8(c) - Significant adverse reaction (SAR):

United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed

United States - EPA Clean water act (CWA) section 311 -

Hazardous substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Flammable substances: Not listed

United States - EPA Clean air act (CAA) section 112 - Accidental

release prevention - Toxic substances: Not listed

**United States - Department of commerce - Precursor chemical:** 

Not listed

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I

**Substances** 

Clean Air Act Section 602 Class II

**Substances** 

**DEA List I Chemicals (Precursor** 

**Chemicals**)

Not listed

Not listed

Not listed

Not listed



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Page 13 of 15 Revision Date 09/25/2017 Print Date 11/17/2018

**DEA List II Chemicals (Essential** 

Chemicals)

Not listed

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

**SARA 311/312** 

**Classification** : Not applicable.

**Composition/information on ingredients** 

| Name                             | %       | Classification |
|----------------------------------|---------|----------------|
| Carbon black                     | 0.1 - 1 | СН             |
| Decanedioic acid, bis(2,2,6,6-   | 10 - 30 | AH             |
| tetramethyl-4-piperidinyl) ester |         |                |

### **SARA 313**

Not applicable.

**State regulations** 

Massachusetts: None of the components are listed.New York: None of the components are listed.New Jersey: The following components are listed:

Calcium carbonate

Silica, amorphous, precipitated and gel

Carbon black

**Pennsylvania** : The following components are listed:

Carbon black

Silica, amorphous, precipitated and gel

Calcium carbonate

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada inventory : At least one component is not listed in DSL but all such components

are listed in NDSL.

### **International regulations**



Page 14 of 15

### 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Print Date 11/17/2018

### **Inventory list**

All components are listed or exempted. Australia

At least one component is not listed in DSL but all such components Canada

are listed in NDSL.

All components are listed or exempted. China All components are listed or exempted. **Europe inventory** Japan All components are listed or exempted. **New Zealand** All components are listed or exempted. All components are listed or exempted. **Philippines** All components are listed or exempted. Republic of Korea All components are listed or exempted. **Taiwan** 

Not determined. **Turkey** 

All components are listed or exempted. **United States** 

## Section 16. Other information

Hazardous Material Information System (U.S.A.):

| inizir doub i internation by been (e.b.i.i.) |   |   |
|--|---|---|
| Health                                       | * | 1 |
| Flammability                                 |   | 0 |
| Physical hazards                             |   | 0 |
|  |   |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

### **History**

**Date of printing** 11/17/2018 Date of issue/Date of revision 09/25/2017 Date of previous issue 03/24/2015

Version 1.2

**Key to abbreviations** ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of

Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From

Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine

pollution)



## 10132426 PU LLDPE UV SMARTBATCH

Version Number 1.2 Revision Date 09/25/2017 Page 15 of 15 Print Date 11/17/2018

UN = United Nations

**References** : Not available.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.