

Section 1. Identification

GHS product identifier : HiTEC® 552H Performance Additive
Product use : Petrochemical industry: Grease Additive

In case of emergency - Chemical

+1-703-527-3887 (International)
+1-703-741-5979 (Spanish language)
+1-800-424-9300 (US & Canada)

Manufacturer / Supplier

Afton Chemical Corporation
500 Spring St.
Richmond,
VA 23219
USA
Tel: +1-804-788-5800

Afton Chemical Corporation
7201 W. 65th Street
Bedford Park, IL 60638, USA
Tel: (708) 458-8450 (Non-emergency)
(800) 323-3231 (Customer Service)

Afton Chemical Canada
P.O. Box 130
Coranna, Canada N0N1G0

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
SKIN SENSITIZATION - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 21.2%

GHS label elements

Hazard pictograms



Signal word : Warning

Hazard statements : Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store in well-ventilated place.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Section 3. Composition/information on ingredients

| Ingredient name | CAS number | Conc. (% w/w) | US GHS Classification |
|------------------------------|-------------|---------------|---|
| Alkyl phenol | Proprietary | 10 - 19.9 | SKIN CORROSION/IRRITATION - Category 2 |
| Zinc Dialkyl Dithiophosphate | Proprietary | 10 - 19.9 | SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 |
| Mineral oil | Mixture | 10 - 19.9 | Not classified. |
| Long-chain alkyl acid | Proprietary | 1 - 4.9 | SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| Aryl amine | Proprietary | 1 - 4.9 | ACUTE TOXICITY (oral) - Category 4 SKIN SENSITIZATION - Category 1 |
| Petroleum distillates | Proprietary | 1 - 4.9 | ASPIRATION HAZARD - Category 1 |

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

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 for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

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

Section 4. First aid measures

- 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO₂.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides
Hydrogen Sulfide
Hydrogen sulfide.

Special protective actions for fire-fighters : 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 self-contained 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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 : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : 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 |
|-----------------------|--|
| Mineral Oil | ACGIH (United States). TWA: 5 mg/m ³ |
| Petroleum distillates | OSHA (United States). TWA: 5 mg/m ³ OSHA PEL Z2 (United States). TWA: 500 ppm 8 hours. |

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.

Individual protection measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyeface 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: chemical splash goggles.

Skin protection

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : 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.

Other skin protection : 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.

Section 8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Brown. to Amber.
- Odor** : Petroleum-like. [Slight]
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: 100°C (212°F) [Pensky-Martens.Minimum]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.017
- Solubility** : Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : 71.02 cSt at 40°C
7.06 cSt @ 100° C

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Strong oxidizing and reducing agents.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product / ingredient name | Result | Species | Dose | Exposure |
|------------------------------|-----------------------|---------|-------------------------|----------|
| Alkyl phenol | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| | LD50 Oral | Rat | 8697 mg/kg | - |
| Zinc Dialkyl Dithiophosphate | LD50 Dermal | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | 2230 mg/kg | - |
| | LD50 Oral | Rat | 3100 mg/kg | - |
| Mineral oil | LC50 Inhalation Vapor | Rat | >5000 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| Long-chain alkyl acid | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| Aryl amine | LD50 Dermal | Rabbit | >2000 mg/kg | - |

Section 11. Toxicological information

| | | | | |
|--|-----------|-----|------------|---|
| | LD50 Oral | Rat | 1625 mg/kg | - |
|--|-----------|-----|------------|---|

Irritation/Corrosion

Conclusion/Summary

- Skin** : Causes skin irritation.
Eyes : Causes eye irritation.

Sensitization

Conclusion/Summary

- Skin** : May cause an allergic skin reaction.

Mutagenicity

Carcinogenicity

Not available.

Reproductive toxicity

Teratogenicity

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Name | Result |
|-----------------------|--------------------------------|
| Petroleum distillates | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Skin, Eyes, Ingestion, and Inhalation

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes skin irritation. May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
- Ingestion** : No specific data.

Delayed and immediate effects and also 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

Not available.

Conclusion/Summary :

Section 11. Toxicological information

- Adverse symptoms may include the following:: This product contains a component that has been shown to cause blood clotting impairment.
- Adverse symptoms may include the following:: This product contains a component that may cause methemoglobinemia. This product contains an aryl amine that has been shown to cause skin sensitization in a small number of occupationally- exposed persons This product contains a component that causes methemoglobinemia in the laboratory animal. This component has been shown to cause Sister Chromatid Exchange in vitro in CHO cells.

| | |
|------------------------------|---|
| General | : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| 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

Persistence and degradability

| Product / ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|------------------------------|-------------------|------------|------------------|
| Zinc Dialkyl Dithiophosphate | - | - | Not readily |
| Long-chain alkyl acid | - | - | Readily |
| Aryl amine | - | - | Not readily |





Bioaccumulative potential

Not available.

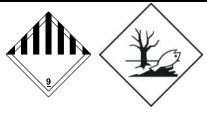

Section 13. Disposal considerations

| | |
|-------------------------|--|
| 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
|-------------------------|--|

Section 14. Transport information

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|---------------------------|-----------|--|-------|---------------|--|------------------------|
| DOT Classification | UN3082 | Environmentally hazardous substance, liquid, n.o.s. (contains 2,6-di-tert-butylphenol). Marine pollutant | 9 | III |   | - |
| TDG Classification | UN3082 | Environmentally hazardous substance, liquid, n.o.s. (contains 2,6-di-tert-butylphenol). Marine pollutant | 9 | III |   | - |

Section 14. Transport information

| | | | | | | |
|-----------------------|--------|--|---|-----|--|---|
| IMDG Class | UN3082 | Environmentally hazardous substance, liquid, n.o.s. (contains 2,6-di-tert-butylphenol). Marine pollutant | 9 | III |  | - |
| IATA-DGR Class | UN3082 | Environmentally hazardous substance, liquid, n.o.s. (2,6-di-tert-butylphenol) | 9 | III |  | - |

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

Section 15. Regulatory information

US regulations

- SARA 313 toxic chemical notification and release reporting (w/w%)** : Zinc dialkyl dithiophosphate 10 - 19.9
- SARA 311/312 Hazardous Categorization** : **SARA 311/312 MSDS distribution - chemical inventory - hazard identification** : Immediate (acute) health hazard, Delayed (chronic) health hazard
- RQ (Reportable quantity)** : CERCLA: Hazardous substances.: Phenol: 1000 lbs. (454 kg); 1-Naphthylamine: 100 lbs. (45.4 kg); 2-Naphthylamine: 10 lbs. (4.54 kg); Aniline: 5000 lbs. (2270 kg); Naphthalene: 100 lbs. (45.4 kg); Ethylenediamine: 5000 lbs. (2270 kg); ISOBUTANOL: 5000 lbs. (2270 kg);
- State - California Prop. 65** : This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute:
Naphthalene
Aniline
alpha-Naphthylamine
beta-Naphthylamine
Benzene

Canadian regulations

International Inventory Status

- United States inventory (TSCA 8b)** : All components are listed or exempted.
- Canada inventory** : All components are listed or exempted.
- Europe inventory** : All components are listed or exempted.
- Japan inventory (ENCS)** : All components are listed or exempted.
- Australia inventory (AICS)** : All components are listed or exempted.
- Korea inventory (KECI)** : All components are listed or exempted.
- China inventory (IECSC)** : All components are listed or exempted.
- Philippines inventory (PICCS)** : All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC)** : All components are listed or exempted.
- Taiwan inventory (CSNN)** : All components are listed or exempted.

Section 16. Other information

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

| | |
|------------------|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazards | 0 |
| | |

Section 16. Other information

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 issue/Date of revision : 5/4/2015.

Prepared by : EHS Department (Tel: +1 804 788 5800)

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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

✔ Indicates information that has changed from previously issued version.

Notice to reader

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.