acc. to OSHA HCS

Printing date 05/13/2021 *Review date 01/13/2017*

*
1 Identification

· **Product identifier**

· **Trade name: GC DET EVALUATION TEST MIX**
· **Article number** N9307036
· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**

PerkinElmer, Inc.
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
CustomerCareUS@perkinelmer.com
203-925-4600
· **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

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2 Hazard(s) identification

· **Classification of the substance or mixture**

Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

Health hazard

Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS02, GHS07, GHS08, GHS09
· **Signal word** Danger

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· **Hazard-determining components of labeling:**
n-hexane
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
· **Precautionary statements**

P201	*Obtain special instructions before use.*
P202	*Do not handle until all safety precautions have been read and understood.*
P210	*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*
P240	*Ground/bond container and receiving equipment.*
P241	*Use explosion-proof electrical/ventilating/lighting/equipment.*
P242	*Use only non-sparking tools.*
P243	*Take precautionary measures against static discharge.*
P260	*Do not breathe dust/fume/gas/mist/vapors/spray.*
P264	*Wash thoroughly after handling.*
P271	*Use only outdoors or in a well-ventilated area.*
P273	*Avoid release to the environment.*
P280	*Wear protective gloves/protective clothing/eye protection/face protection.*
P303+P361+P353	*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.*
P304+P340	*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
P308+P313	*IF exposed or concerned: Get medical advice/attention.*
P312	*Call a poison center/doctor if you feel unwell.*
P321	*Specific treatment (see on this label).*
P314	*Get medical advice/attention if you feel unwell.*
P362+P364	*Take off contaminated clothing and wash it before reuse.*
P332+P313	*If skin irritation occurs: Get medical advice/attention.*
P370+P378	*In case of fire: Use for extinction: CO2, powder or water spray.*
P391	*Collect spillage.*
P403+P233	*Store in a well-ventilated place. Keep container tightly closed.*
P403+P235	*Store in a well-ventilated place. Keep cool.*
P405	*Store locked up.*
P501	*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 0

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· **Other hazards**
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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3 Composition/information on ingredients

· **CAS No. Description**
110-54-3 n-Hexane
· **EC number:** 203-777-6
· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Hazardous components:**		
110-54-3	n-hexane Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336	99.7%
121-69-7	N,N-dimethylaniline Flam. Liq. 3, H226 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411	0.1%
127-18-4	tetrachloroethylene Carc. 2, H351 Aquatic Chronic 2, H411	0.1%

· **Additional Components**		
110-02-1	thiophene Flam. Liq. 2, H225 Acute Tox. 4, H302; Eye Irrit. 2A, H319	0.1%

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4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Prevent seepage into sewage system, workpits and cellars.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
110-54-3	n-hexane	260 ppm
121-69-7	N,N-dimethylaniline	10 ppm
127-18-4	tetrachloroethylene	35 ppm

· **PAC-2:**		
110-54-3	n-hexane	2900* ppm
121-69-7	N,N-dimethylaniline	330 ppm
127-18-4	tetrachloroethylene	230 ppm

· **PAC-3:**		
110-54-3	n-hexane	8600** ppm
121-69-7	N,N-dimethylaniline	2,000 ppm
127-18-4	tetrachloroethylene	1,200 ppm

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
110-54-3 n-hexane	
PEL	Long-term value: 1800 mg/m³, 500 ppm
REL	Long-term value: 180 mg/m³, 50 ppm
TLV	Long-term value: 176 mg/m³, 50 ppm Skin; BEI
121-69-7 N,N-dimethylaniline	
PEL	Long-term value: 25 mg/m³, 5 ppm Skin
REL	Short-term value: 50 mg/m³, 10 ppm Long-term value: 25 mg/m³, 5 ppm Skin
TLV	Short-term value: 50 mg/m³, 10 ppm Long-term value: 25 mg/m³, 5 ppm Skin; BEI-M
127-18-4 tetrachloroethylene	
PEL	Long-term value: 100 ppm Ceiling limit value: 200; 300* ppm *5-min peak in any 3 hrs

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REL	Minimize workplace exp. concs.;Pocket Guide App. A
TLV	Short-term value: 685 mg/m³, 100 ppm Long-term value: 170 mg/m³, 25 ppm BEI

· **Ingredients with biological limit values:**

110-54-3 n-hexane

BEI	0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2.5-Hexanedione without hydrolysis

121-69-7 N,N-dimethylaniline

BEI	1.5 % of hemoglobin Medium: blood Time: during or end of shift Parameter: Methemoglobin (background, nonspecific, semi-quantitative)

127-18-4 tetrachloroethylene

BEI	3 ppm Medium: end-exhaled air Time: prior to shift Parameter: Tetrachloroethylene 0.5 mg/L Medium: blood Time: prior to shift Parameter: Tetrachloroethylene

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· ***Penetration time of glove material***
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***

Tightly sealed goggles or safety glasses

· ***Body protection:*** *Apron*

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9 Physical and chemical properties

· ***Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Liquid*
Color:	*Transparent*
· ***Odor:***	*Characteristic*
· ***Odor threshold:***	*Not determined.*
· ***pH-value:***	*Not determined.*
· ***Change in condition***	
Melting point/Melting range:	*-95 °C (-139 °F)*
Boiling point/Boiling range:	*69 °C (156.2 °F)*
· ***Flash point:***	*-26 °C (-14.8 °F)*
· ***Flammability (solid, gaseous):***	*Not applicable.*
· ***Ignition temperature:***	*240 °C (464 °F)*
· ***Decomposition temperature:***	*Not determined.*
· ***Auto igniting:***	*Product is not selfigniting.*
· ***Danger of explosion:***	*Product is not explosive. However, formation of explosive air/vapor mixtures are possible.*
· ***Explosion limits:***	
Lower:	*1.2 Vol %*
Upper:	*7.4 Vol %*
· ***Vapor pressure at 20 °C (68 °F):***	*160 hPa (120 mm Hg)*
· ***Density at 20 °C (68 °F):***	*0.66165 g/cm³ (5.52147 lbs/gal)*
· ***Relative density***	*Not determined.*
· ***Vapor density***	*Not determined.*
· ***Evaporation rate***	*Not determined.*

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· **Solubility in / Miscibility with**	
Water at 20 °C (68 °F):	0.1 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	99.9 %
VOC content:	99.90 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
121-69-7	N,N-dimethylaniline	3
127-18-4	tetrachloroethylene	2A

· **NTP (National Toxicology Program)**		
127-18-4	tetrachloroethylene	R

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Dispose of container and materials in accordance with local, regional and national regulations.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1993
· **UN proper shipping name**	
· **DOT**	Flammable liquids, n.o.s. (Hexanes)
· **ADR**	1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (HEXANES), ENVIRONMENTALLY HAZARDOUS
· **IMDG**	FLAMMABLE LIQUID, N.O.S. (HEXANES, N,N-DIMETHYLANILINE), MARINE POLLUTANT
· **IATA**	FLAMMABLE LIQUID, N.O.S. (HEXANES)

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· **Transport hazard class(es)**

· **DOT**

· **Class**	3 Flammable liquids
· **Label**	3

· **ADR**

· **Class**	3 (F1) Flammable liquids
· **Label**	3

· **IMDG**

· **Class**	3 Flammable liquids
· **Label**	3

· **IATA**

· **Class**	3 Flammable liquids
· **Label**	3

· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	Product contains environmentally hazardous substances: n-hexane
· **Marine pollutant:**	Yes Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-E
· **Segregation groups**	Liquid halogenated hydrocarbons
· **Stowage Category**	B

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· **Remarks:**	None
· **ADR**	
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

110-54-3	n-hexane Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Skin Irrit. 2, H315; STOT SE 3, H336	99.7%
110-02-1	thiophene Flam. Liq. 2, H225 Acute Tox. 4, H302; Eye Irrit. 2A, H319	0.1%
121-69-7	N,N-dimethylaniline Flam. Liq. 3, H226 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Carc. 2, H351 Aquatic Chronic 2, H411	0.1%

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

110-54-3	n-hexane
121-69-7	N,N-dimethylaniline
127-18-4	tetrachloroethylene

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· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

110-54-3	n-hexane	ACTIVE
110-02-1	thiophene	ACTIVE
121-69-7	N,N-dimethylaniline	ACTIVE
127-18-4	tetrachloroethylene	ACTIVE

· **Hazardous Air Pollutants**	
110-54-3	n-hexane
121-69-7	N,N-dimethylaniline
127-18-4	tetrachloroethylene

· **Proposition 65**

· **Chemicals known to cause cancer:**	
127-18-4	tetrachloroethylene

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**	
110-54-3	n-hexane

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**		
110-54-3	n-hexane	II
127-18-4	tetrachloroethylene	L

· **TLV (Threshold Limit Value established by ACGIH)**		
121-69-7	N,N-dimethylaniline	A4
127-18-4	tetrachloroethylene	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
127-18-4	tetrachloroethylene

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

Disclaimer
The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and

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should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer shall not be held liable for any damage resulting from handling or from contact with the product.

· **Department issuing SDS:** *Environmental, Health and Safety*
· **Contact:**
Within the USA: 1-(800)-762-4000
Outside the USA: 1-(203)-712-8488
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
· **** Data compared to the previous version altered.***