



GAT Octane Booster S

Revision date: 31.03.2025

Product code: 100592

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

1.1. Product identifier

GAT Octane Booster S

UFI: P9KY-E8W4-S00F-8YWK

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

Use of the substance/mixture

octane number improver

1.3. Details of the supplier of the safety data sheet

Company name:	GAT Gesellschaft für Kraftstoff- und Automobiltechnologie mbH		
Street:	Alt Saale 2		
Telephone:	+49 (0)3672-48 38 0-66	Telefax:	+49 (0)3672-48 38 0-22
E-mail:	info@gat-international.de		
Contact person:	Research & Development	Telephone:	+49 (0)3672-48 38 0-66
E-mail:	info@gat-international.de		
Internet:	www.gat-international.de		
Responsible Department:	Research & Development		

1.4. Emergency telephone number: for Germany: +49-361-730730

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 3; H226
Acute Tox. 4; H312
Acute Tox. 4; H332
Asp. Tox. 1; H304
Skin Irrit. 2; H315
Eye Dam. 1; H318
Carc. 2; H351
Repr. 1B; H360FD
STOT SE 3; H335
STOT RE 2; H373
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

xylene
ethylbenzene
Solvent naphtha (petroleum), heavy arom.
Potassium-1,2-bis-(2-ethylhexyloxycarbonyl)-ethansulfonate
naphthalene
Dicyclopentadienyl iron

Signal word: Danger

Pictograms:





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Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of this material and its container to hazardous or special waste collection point.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures



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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
1330-20-7	xylene			60 - < 80 %
	215-535-7	601-022-00-9		
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1; H226 H332 H312 H315 H319 H335 H373 H304			
100-41-4	ethylbenzene			10 - < 20 %
	202-849-4	601-023-00-4		
	Flam. Liq. 2, Acute Tox. 4, STOT RE 2, Asp. Tox. 1; H225 H332 H373 H304			
64742-94-5	Solvent naphtha (petroleum), heavy arom.			10 - < 20 %
	919-284-0	649-424-00-3	01-2119463588-24	
	STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H336 H304 H411 EUH066			
7491-09-0	Potassium-1,2-bis-(2-ethylhexyloxycarbonyl)-ethansulfonate			1 - < 10 %
	231-308-5		01-2119919740-39	
	Skin Irrit. 2, Eye Dam. 1; H315 H318			
64742-94-5	Kerosine - unspecified, Solvent naphtha (petroleum), heavy arom.			1 - < 10 %
	926-273-4	649-424-00-3	01-2119451151-53	
	Asp. Tox. 1, Aquatic Chronic 2; H304 H411			
91-20-3	naphthalene			1 - < 10 %
	202-049-5	601-052-00-2		
	Carc. 2, Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1; H351 H302 H400 H410			
64742-47-8	Distillates (petroleum), hydro-treated light; Kerosine - unspecified			1 - < 10 %
	265-149-8	649-422-00-2		
	Asp. Tox. 1; H304			
102-54-5	Dicyclopentadienyl iron			0.1 - < 1 %
	203-039-3		01-2119978280-34	
	Flam. Sol. 1, Repr. 1B, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Aquatic Chronic 1; H228 H360FD H332 H302 H373 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1330-20-7	215-535-7	xylene	60 - < 80 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg	
100-41-4	202-849-4	ethylbenzene	10 - < 20 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists)	
91-20-3	202-049-5	naphthalene	1 - < 10 %
		oral: ATE = 500 mg/kg	
102-54-5	203-039-3	Dicyclopentadienyl iron	0.1 - < 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >3000 mg/kg; oral: LD50 = 1350 mg/kg Aquatic Chronic 1; H410: M=10	

SECTION 4: First aid measures

4.1. Description of first aid measures



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After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

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

No information available.

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

Carbon dioxide (CO₂), Foam, Extinguishing powder. In case of fire, use sand, extinguishing powder or alcohol resistant foam. carbon dioxide (CO₂)

Unsuitable extinguishing media

Water. Full water jet

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

octane number improver

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

CAS No	Name of agent	ppm	mg/m ³	fib/cm ³	Category	Origin
100-41-4	Ethylbenzene	100	442		TWA (8 h)	
		200	884		STEL (15 min)	
91-20-3	Naphtalene	10	50		TWA (8 h)	
1330-20-7	Xylene, mixed isomers, pure	50	221		TWA (8 h)	
		100	442		STEL (15 min)	

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the



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specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	light yellow - amber	
Odour:	characteristic	
		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	136-145 °C	
Flammability:	not determined	
Lower explosion limits:	0,6	
Upper explosion limits:	8	
Flash point:	31 °C	ISO 3679
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value:	not applicable	
Viscosity / kinematic: (at 40 °C)	0,7 mm ² /s	DIN EN ISO 3104
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.	
Solubility in other solvents	not determined	
Dissolution rate:	not determined	
Partition coefficient n-octanol/water:	not determined	
Vapour pressure: (at 50 °C)	0,63 hPa	DIN EN ISO 13016-1
Density:	0,88 g/cm ³	DIN 12185
Relative density:	not determined	
Relative vapour density:	not determined	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours can form explosive mixtures with air.

Self-ignition temperature

Solid:

Gas:

not determined

not determined

Oxidizing properties

Not oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable, Ignition hazard.



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10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful in contact with skin.

Harmful if inhaled.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) 1679 mg/kg; ATE (inhalation vapour) 13,11 mg/l; ATE (inhalation dust/mist) 1,788 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1330-20-7	xylene				
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
100-41-4	ethylbenzene				
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
91-20-3	naphthalene				
	oral	ATE 500 mg/kg			
102-54-5	Dicyclopentadienyl iron				
	oral	LD50 1350 mg/kg	Rat		OECD 401
	dermal	LD50 >3000 mg/kg	Rat		OECD 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction



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Suspected of causing cancer. (naphthalene)
May damage fertility. May damage the unborn child. (Dicyclopentadienyl iron)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation. (xylene)

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (xylene; ethylbenzene)

Aspiration hazard

May be fatal if swallowed and enters airways.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
102-54-5	Dicyclopentadienyl iron					
	Acute fish toxicity	LC50 mg/l	12,3	96 h	Leuciscus idus melanotus	
	Acute algae toxicity	ErC50 mg/l	1,03	72 h		OECD 201
	Acute crustacea toxicity	EC50	2,5 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202
	Fish toxicity	NOEC	1,5 mg/l	14 d	Leuciscus idus melanotus	OECD 204
	Crustacea toxicity	NOEC	0,0015	21 d	Daphnia magna (Big water flea)	OECD 211

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
102-54-5	Dicyclopentadienyl iron	3,7

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.



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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:

UN 3295

14.2. UN proper shipping name:

HYDROCARBONS, LIQUID, N.O.S. (xylene, ethylbenzene, Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified)

14.3. Transport hazard class(es):

3

14.4. Packing group:

III

Hazard label:

3



Classification code:

F1

Limited quantity:

5 L

Excepted quantity:

E1

Transport category:

3

Hazard No:

30

Tunnel restriction code:

D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:

UN 3295

14.2. UN proper shipping name:

HYDROCARBONS, LIQUID, N.O.S. (xylene, ethylbenzene, Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified)

14.3. Transport hazard class(es):

3

14.4. Packing group:

III

Hazard label:

3



Classification code:

F1

Limited quantity:

5 L

Excepted quantity:

E1

Marine transport (IMDG)

14.1. UN number or ID number:

UN 3295

14.2. UN proper shipping name:

HYDROCARBONS, LIQUID, N.O.S.(xylene, ethylbenzene, Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified)

14.3. Transport hazard class(es):

3

14.4. Packing group:

III

Hazard label:

3





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Marine pollutant: YES
Special Provisions: 223
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3295

14.2. UN proper shipping name: HYDROCARBONS, LIQUID, N.O.S. (xylene, ethylbenzene, Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified)

14.3. Transport hazard class(es): 3

14.4. Packing group: III

Hazard label: 3



Special Provisions: A3 A324

Limited quantity Passenger: 10 L

Passenger LQ: Y344

Excepted quantity: E1

IATA-packing instructions - Passenger: 355

IATA-max. quantity - Passenger: 60 L

IATA-packing instructions - Cargo: 366

IATA-max. quantity - Cargo: 220 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: Dicyclopentadienyl iron; Potassium-1,2-bis-(2-ethylhexyloxycarbonyl) -ethansulfonate

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Additional information

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.



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15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 15.

Abbreviations and acronyms

Flam. Liq: Flammable liquid

Flam. Sol: Flammable solid

Acute Tox: Acute toxicity

Asp. Tox: Aspiration hazard

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Eye Irrit: Eye irritation

Carc: Carcinogenicity

Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure

STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

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

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Acute Tox. 4; H312	Calculation method
Acute Tox. 4; H332	Calculation method
Asp. Tox. 1; H304	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Carc. 2; H351	Calculation method
Repr. 1B; H360FD	Calculation method
STOT SE 3; H335	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.



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H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)