

According to 190/2006/EC (REACH), 1272/2008/EC (CLP) and GHS

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SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER/TRADE NAME:

STAR ADVANTAGE-4

1.2 RELIVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

No further relevant information available.

Application of the Substance / the Mixture: Sealcoating Additive

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Manufacturer/Supplier: Specialty Technology And Research, Incorporated (S.T.A.R., Inc.)
1150 Milepost Drive, Columbus, Ohio 43228
Tel: +1-614-870-0744 • Fax: +1-614-870-0598 • Toll Free +1-800-759-1912
Web Site: www.starseal.com

1.4 EMERGENCY TELEPHONE NUMBER:

ChemTel, Inc.
(800)255-3924, +1(813)248-0585

SECTION 2 HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

Classification according to Regulation (EC) No 1272/2008

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation:
H412



Corrosion

Eye Damage. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects

CLASSIFICATION ACCORDING TO DIRECTIVE 67/548/ECC or DIRECTIVE 1999/45/EC



C; Corrosive

R34: Causes Burns.
R52/53; Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment..

Information concerning particular hazards for human and environment:

The product has to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412

The product is classified and labeled according to the CLP regulation.

Hazard pictograms



GHS05 GHS07

Signal word Danger

Hazard-determining components of labelling:

Ethanol, 2,2'-iminobis-, N-coco alkyl derivs.

Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist/vapors/spray.

P280 Wear protective gloves / eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

WHMIS-symbols:

D2B - Toxic material causing other toxic effects



NFPA ratings (Scale 0-4)



Health = 2

Fire = 0

Reactivity = 0

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HMIS ratings (Scale 0-4)

HEALTH	*2
FLAMMABILITY	0
REACTIVITY	0

Health = *2

Fire = 0

Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

HMIS Long Term Health Hazard Substances

None of the ingredients is listed

2.3 Other Hazards

Results of PBT and vPvB assessment

- PBT:** Not applicable.
- vPvB:** Not applicable.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions

Dangerous components:

CAS: 67-63-0 EINECS: 200-661-7 Index number: 603-117-00-0	propan-2-ol. ☒ Xi R36; ☒ F R11 R67 ☒ Flam. Liq. 2, H225 ☒ Eye Irrit. 2, H319; STOT SE 3, H336	10-25%
CAS: 61791-31-9 EINECS: 263-163-9	Ethanol, 2,2'-iminobis-, N-coco alkyl derivs. ☒ C R34; ☒ Xn R22 ☒ Skin Corr. 1B, H314; Eye Dam. 1, H318 ☒ Aquatic Acute 1, H400 ☒ Acute Tox. 4, H302; Skin Sens. 1, H317	2.5-10%
CAS: 1333-86-4 EINECS: 215-609-9	Carbon Black ☒ Xn R40 Carc, Cat. 3 ☒ Carc. 2, H351	≤ 2.5%
CAS: 61788-46-3 EINECS: 262-977-1 Index Number 612-285-00-4	amines, coco alkyl ☒ C R35; ☒ Xn R22-48-48/22; ☒ Xi R37; ☒ N R50/53 ☒ STOT RE 2, H373 ☒ Skin Corr. 1A, H314 ☒ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ☒ Acute Tox. 4, H302; STOT SE 3, H335	≤ 2.5%

Additional information:

Non-classification as a carcinogen is based on non-inhalable form of product. IARC listings for carbon black note that substance must be respirable.

For the wording of the listed risk phrases refer to section 16

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SECTION 4

FIRST AID MEASURES

4.1 Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately rinse with water.

If skin irritation continues, consult a doctor.

After eye contact:

Protect unharmed eye,

Remove contact lenses if worn, if possible.

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

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

Irritant to skin and mucous membranes.

Cramp

Gastric or intestinal disorders.

Coughing

Nausea

Breathing difficulty

Hazards:

Danger of disturbed cardiac rhythm.

Danger of severe eye injury.

May be harmful if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Treat skin and mucous membrane with antihistamine and corticoid preparations.

If necessary oxygen respiration treatment.

Medical supervision for at least 48 hours.

SECTION 5

FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: None

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information No further relevant information available

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SECTION 6

ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Clean the affected area carefully; suitable cleaners are:
Warm water
Dispose contaminated material as waste according to item 13.
Send for recovery or disposal in suitable receptacles.

6.4 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.

SECTION 7

HANDLING AND STORAGE

7.1 Precautions for safe handling

Prevent formation of aerosols
Use only in well ventilated areas.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility:

Store away from foodstuffs.
Store away from oxidizing agents.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.
Protect from frost.

7.3 Specific end use(s) No further relevant information available.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

67-63-0 propan-2-ol

PEL (USA)	Long-term value: 980 mg/m ³ , 400 ppm
REL (USA)	Short-term value: 1225 mg/m ³ , 500 ppm
	Long-term value: 980 mg/m ³ , 400 ppm

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TLV (USA)	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm BEI
EL (Canada)	Short-term value: 400 ppm Long-term value 200 ppm
EV (Canada)	Short-term value: 400 ppm Long-term value 200 ppm

1333-86-4 Carbon Black

PEL(USA)	Long-term value: 3.5 mg/m ³
REL (USA)	Long-term value: 3.5* mg/m ³ *0.1 in presence of PAHs; See Pocket Guide Apps. A+C
TLV (USA)	Long-term value: 3* mg/m ³ *inhalable fraction
EL (Canada)	Long-term value: 3 mg/m ³ IARC 2B
EV (Canada)	Long-term value: 3.5 mg/m ³

DNELs No further relevant information available.
PNECs No further relevant information available.

Ingredients with biological limit values:

67-63-0 propan-2-ol

BEI (USA)	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
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Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Clean skin thoroughly immediately after handling the product.
Avoid contact with the eyes and skin.

Respiratory protection:

Not required under normal conditions of use.
Use suitable respiratory protective device when aerosol or mist is formed.
Use suitable respiratory protective device when high concentrations are present.
For spills, respiratory protection may be advisable.

Protection of hands:

Protective gloves



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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.

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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses



Body protection:

Protective work clothing

Limitation and supervision of exposure into the environment

No further relevant information available.

Risk management measures

See Section 7 for additional information.

8.3 Other Information: No further relevant information available.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information:

Appearance:

Form..... Thick Viscous Pourable Liquid
Color Black

Odor Characteristic Acrylic

Odor Threshold Not determined

Ph Value 7.0 - 8.0

Change in Condition:

Melting point/Melting Range Not Determined
Boiling point/Boiling range >212° F / >100° C (414°F / 212°F)
Flash Point..... >200° F / >93° C (>392° F / >199°F)

Flammability (Solid Gaseous)..... Not Applicable

Auto/Self-Ignition Temperature Not determined

Decomposition Temperature Not determined

Self-Igniting Product is not self-igniting.

Danger of Explosion Product does not present an explosion Hazard.

Explosion Limits:

Lower Not determined
Upper Not determined

Vapor Pressure 25mm Hg

Density at 20° C..... 1-1.05 g/cm³ (8.3-8.7 lbs/gal)

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Relative Density Not Determined
 Vapor Density 0.6 g/cm³ (5.007 lbs/gal) (Air=1)
 Evaporation Rate 1 (Water=1)
 Solubility in/Miscibility with Water Fully miscible
 Partition Coefficient (n-octanol/water) Not Determined
 Viscosity:
 Dynamic Not Determined
 Kinematic Not Determined

9.2 Other Information: No further relevant information available

SECTION 10

STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Thermal decomposition/conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.
 Reacts with strong oxidizing agents.

10.4 Conditions to avoid: Store away from oxidizing agents.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide
 Nitrogen oxides (NOx)
 Irritant gasses/vapors

SECTION 11

TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 Values Relevant for Classification		
61791-31-9 Ethanol, 2,2'-iminobis-, N-coco alkyl derivs		
Oral	LD50	1500 mg/kg (rat)
1333-86-4 Carbon Black		
Oral	LD50	10000 mg/kg (rat)
61788-46-3 amines, coco alkyl		
Oral	LD50	1240 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

May be harmful if inhaled.

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Sensitization: Sensitization possible by skin contact.

Repeated dose toxicity: Repeated exposures may result in skin and/or respiratory sensitivity.

SECTION 12

ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity: The product contains materials that are harmful to the environment.

61791-31-9 Ethanol, 2,2'-iminobis-, N-coco alkyl derivs

LC50 0.28 mg/l (diaphnia) (96h)

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms

12.5 Results of PBT and vPvB assessment

- PBT:** Not applicable.
- vPvB:** Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13

DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Recommendation:

Smaller quantities can be disposed of with household waste.
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14

TRANSPORTATION INFORMATION

14.1 UN-Number

DOT, ADR, ADN, IMDG, IATA

Not Regulated

14.2 UN proper shipping name

DOT, ADR, ADN, IMDG, IATA

Not Regulated

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14.3 Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
14.4 Packing group DOT, ADR, IMDG, IATA	Not Regulated
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user:	Not Applicable
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
UN "Model Regulation":	-

SECTION 15

REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
United States (USA)**
SARA

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

67-63-0 propan-2-ol

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

1333-86-4 Carbon Black

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed

IARC (International Agency for Research on Cancer)

67-63-0 propan-2-ol

1333-86-4 Carbon Black

TLV (Threshold Limit Value established by ACGIH)

67-63-0 propan-2-ol

1333-86-4 Carbon Black

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NIOSH-Ca (National Institute for Occupational Safety and Health)

1333-86-4 Carbon Black

Canada

Canadian Domestic Substances List (DSL)

All ingredients are listed.

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed

Canadian Ingredient Disclosure list (limit 1%)

67-63-0 propan-2-ol

1333-86-4 Carbon Black

Other regulations, limitations and prohibitive regulations

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16

OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- 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.
- R11 Highly flammable.
- R22 Harmful if swallowed.
- R34 Causes burns.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R37 Irritating to respiratory system.
- R40 Limited evidence of a carcinogenic effect.
- R48 Danger of serious damage to health by prolonged exposure.
- R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R67 Vapours may cause drowsiness and dizziness.

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Abbreviations and acronyms:

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
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
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)
WHMIS:	Workplace Hazardous Materials Information System (Canada)
DNEL:	Derived No-Effect Level (REACH)
PNEC:	Predicted No-Effect Concentration (REACH)
LC50:	Lethal concentration, 50 percent
LD50:	Lethal dose, 50 percent
Flam. Liq. 2:	Flammable liquids, Hazard Category 2
Acute Tox. 4:	Acute toxicity, Hazard Category 4
Skin Corr. 1A:	Skin corrosion/irritation, Hazard Category 1A
Skin Corr. 1B:	Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2:	Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1:	Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2:	Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1:	Sensitisation - Skin, Hazard Category 1
Carc. 2:	Carcinogenicity, Hazard Category 2
STOT SE 3:	Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 2:	Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Acute 1:	Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1:	Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 3:	Hazardous to the aquatic environment - Chronic Hazard, Category 3

Sources

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