1 Identification

Product identifier

Trade name: 356 R Salt

Application of the substance / the mixture Industrial use only
Uses advised against None specified.

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Rockwell Collins, Inc. (COLLINS AEROSPACE)
2464 River Road
Decorah, IA 52101 U.S.A
Tel: (319) 295-9800
www.collinsaerospace.com
Kidde Aerospace and Defense (COLLINS AEROSPACE)
4200 Airport Drive NW
Wilson, NC 27896
(252) 237-7004
https://kiddetechnologies.com/
Information department: EH&S Compliance | Central EH&S

Emergency telephone number CHEMTREC 800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

GHS08

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS05

Corrosive to Metals 1 H290 May be corrosive to metals.
Skin Corrosion 1B H314 Causes severe skin burns and eye damage.
Eye Damage 1 H318 Causes serious eye damage.

(Contd. on page 2)

Trade name: 356 R Salt


GHS07

Acute Toxicity - Oral 4	H302 Harmful if swallowed.
Acute Toxicity - Inhalation 4	H332 Harmful if inhaled.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure 3	H335 May cause respiratory irritation.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms


GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
Stannous Chloride

Hazard statements

H290 May be corrosive to metals.
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P234 Keep only in original container.
P260 Do not breathe dusts or mists.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center/doctor.
P314 Get medical advice/attention if you feel unwell.
P273 Avoid release to the environment.

(Contd. on page 3)

P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization:

Hazardous components:		
CAS: 7447-40-7	potassium chloride	20-80%
CAS: 7772-99-8	Stannous Chloride	20-80%
	Specific Target Organ Toxicity - Repeated Exposure 2, H373 Corrosive to Metals 1, H290; Skin Corrosion 1B, H314; Eye Damage 1, H318 Acute Toxicity - Oral 4, H302; Acute Toxicity - Inhalation 4, H332; Sensitization - Skin 1, H317; Specific Target Organ Toxicity - Single Exposure 3, H335; Aquatic Chronic, H412	

Additional information:

In accordance with paragraph (i) of §1910.1200, the exact percentage (concentration) of composition of the mixture ingredients has been withheld as a trade secret.

4 First-aid measures

Description of first aid measures

General information:

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

After inhalation:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Avoid breathing dust/fume/gas/mist/vapors/spray

Call a poison center/doctor if you feel unwell.

After skin contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact:

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 advice/attention.

After swallowing:

If swallowed: Rinse mouth. Do NOT induce vomiting.

Call a poison center/doctor if you feel unwell.

(Contd. on page 4)

Most important symptoms and effects, both acute and delayed
Any additional important symptoms and effects are described in Section 11: Toxicological Information
Indication of any immediate medical attention and special treatment needed Obtain medical assistance.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
For safety reasons unsuitable extinguishing agents: Do not use a heavy water stream.

Special hazards arising from the substance or mixture Not flammable.

Advice for firefighters
Protective equipment:
Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure adequate ventilation.
Evacuate area.
Wear protective equipment.

Environmental precautions:
Avoid release to the environment.
Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Inform authorities in case of release.

Methods and material for containment and cleaning up:
Sweep up and shovel into suitable containers for proper disposal.
Minimize air-borne particulate
Store away from other materials.

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.

7 Handling and storage

Precautions for safe handling:
Ensure adequate ventilation.
Prevent formation of dust.
Do not breathe dust or fume.

(Contd. on page 5)

May be corrosive to metals.
Take off contaminated clothing and wash it before reuse.
Do not eat, drink or smoke when using this product.
Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
Keep only in original container.
Keep receptacles tightly sealed.
Store in a cool, dry area, away from direct sunlight.
Store in corrosive resistant container with a resistant inner liner.
Absorb spillage to prevent material damage.
Information about storage in one common storage facility:
Store away from incompatible materials. See Section 10.
Store locked up.
Further information about storage conditions:
Dispose of contents/container in accordance with local/regional/national/international regulations.

Specific end use(s) No relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Ensure adequate ventilation.
Eyewash stations and showers should be available in areas where this material is used and stored.
Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.
Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Control parameters

Components with limit values that require monitoring at the workplace:
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

CAS: 7772-99-8 Stannous Chloride	
PEL	Long-term value: 2 mg/m³ as Sn
REL	Long-term value: 2 mg/m³ as Sn
TLV	Long-term value: 2* mg/m³ *inhalable fraction, as Sn

Regulatory information
PEL: Guide to Occupational Exposure Values (OSHA PELs)
REL: Guide to Occupational Exposure Values (NIOSH RELs)
TLV: Guide to Occupational Exposure Values (TLV)

(Contd. on page 6)

Regulatory information
Monitoring of substance concentrations in air at the workplace may be necessary to ensure compliance with official exposure limit values and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. For further information contact the supplier or the competent authorities.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:
Do not get in eyes, on skin, or on clothing.
Immediately remove all soiled and contaminated clothing.
Contaminated work clothing must not be allowed out of the workplace.

Breathing equipment: Dust production: dust mask with filter type P2

Protection of hands:
Material of gloves chemical resistant gloves
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: Chemical goggles or safety glasses with side shields.

Body protection: Laboratory coat

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:	
Form:	Solid
Color:	White
Odor:	No information available.
Odor threshold:	Not determined.
pH-value:	No data available.
Change in condition	
Melting point/Melting range:	No data available.
Boiling point/Boiling range:	652 °C (1,205.6 °F)
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not determined.
Ignition temperature:	No data available.
Decomposition temperature:	500 °C (932 °F) Not determined.
Auto igniting:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.

(Contd. on page 7)

Explosion limits:
Lower: Not determined.
Upper: Not determined.

Oxidizing properties: No data available.
Vapor pressure at 429 °C (804.2 °F): 33 hPa (24.8 mm Hg)
Density: Not determined.
Relative density: Not determined.
Vapour density: Not applicable.
Evaporation rate: Not applicable.
Solubility in / Miscibility with
Water: Soluble.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.

Other information No relevant information available.

10 Stability and reactivity

Reactivity No data available.
Chemical stability Hygroscopic
Possibility of hazardous reactions No dangerous reactions known under normal conditions of use.
Conditions to avoid Extremes of temperature and direct sunlight.
Incompatible materials:
Strong acids
Strong bases
Metals
Hazardous decomposition products: Hydrogen chloride (HCl)
Additional information: May be corrosive to metals.

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values:
Harmful if swallowed or if inhaled.

CAS: 7447-40-7 potassium chloride		
Oral	LD50	2,600 mg/kg (rat)
CAS: 7772-99-8 Stannous Chloride		
Dermal	LD50	2,274.6 mg/kg (rat)
Inhalative	LC50	2 mg/L air (rat)

(Contd. on page 8)

Skin Corrosion/Irritation: Causes severe skin burns.
Serious eye damage/irritation: Causes serious eye damage.
Sensitization: Based on available data, the classification criteria are not met.

Additional toxicological information:
Symptoms may include pain, severe local redness, rash, and tissue damage. Eye contact may cause redness, tearing, blurred vision with corneal injury which may result in permanent impairment of vision, even blindness.
Inhalation of dusts may cause severe irritation and burns of the nose, throat and respiratory tract.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

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

Germ cell mutagenicity Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: May cause respiratory irritation.
STOT-repeated exposure:
Repeated dose toxicity: via oral route - systemic effects (target organ) cardiovascular / hematological.
May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard: Based on available data, the classification criteria are not met.

12 Ecological information

Toxicity

Aquatic toxicity:
Harmful to aquatic life with long lasting effects.

CAS: 7447-40-7 potassium chloride	
EC50	825 mg/L (daphnia)
CAS: 7772-99-8 Stannous Chloride	
NOEC	0.18 mg/L /21 d (daphnia)
96h LC50	9 mg/L (fish)
EC50	31-88 mg/L /48 h (daphnia)
LC50	2 mg/L /4 h (rat)

Persistence and degradability Stannous Chloride: May cause long-term adverse effects in the environment.
Bioaccumulative potential
Stannous Chloride: Log Pow: -2.149.
Bioaccumulative potential: not established.

(Contd. on page 9)

Mobility in soil No relevant information available.

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects No relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation: Dispose of contents/container in accordance with local/regional/national/international regulations.

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

14 Transport information

UN-Number
DOT, IMDG, IATA UN1759

UN proper shipping name
DOT Corrosive solids, n.o.s. (Stannous Chloride)
IMDG, IATA CORROSIVE SOLID, N.O.S. (Stannous Chloride)

Transport hazard class(es)

DOT

Class 8 Corrosive substances
Label 8
IMDG, IATA

Class 8 Corrosive substances
Label 8

Packing group
DOT, IMDG, IATA II

(Contd. on page 10)

Environmental hazards: Not applicable.

Special precautions for user Warning: Corrosive substances
Hazard identification number (Kemler code): 80
EMS Number: F-A,S-B
Segregation groups (SGG1) Acids
Stowage Category A

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not determined

Transport/Additional information:

DOT
Quantity limitations On passenger aircraft/rail: 25 kg
On cargo aircraft only: 100 kg
Limited quantities (LQ) 5 kg

IMDG
Limited quantities (LQ) 5 kg
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation": UN 1759 CORROSIVE SOLID, N.O.S. (STANNOUS CHLORIDE), 8, II

15 Regulatory information

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

Hazardous Air Pollutants
None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

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

(Contd. on page 11)

16 Other 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 valid for the new made-up material.

Training hints
The product should only be handled by persons, who were informed sufficiently about the nature of the product and about the necessary safety precautions.
Date of preparation / last revision 01/11/2023

Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Corrosive to Metals 1: Corrosive to metals – Category 1
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Skin Corrosion 1B: Skin corrosion/irritation – Category 1B
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

Sources Data arise from reference works and literature.