Substance key: 000000138902	Revision Date: 04/28/2015
Version : 2 - 0 / USA	Date of printing :05/19/2015

SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704 331 7000 **Information of the substance/preparation:** Product Safety 1-704-331-7710 **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name:	**EXOLIT RP 6520**
Material number:	196487
Primary product use:	Flame retardants
Restrictions on use :	Industrial manufacture of screening smoke ammunition or smoke payloads. Screening smoke ammunition and smoke payloads are produced by mixing red phosphorus with oxidizing substances which will lead to an explosive mixture. The safe use of explosive mixtures cannot be described in an exposure assessment according to Regulation (EC) No. 1907/2006. Thus this use is not supported.
Chemical family:	Red phosphorus dispersion in castor oil

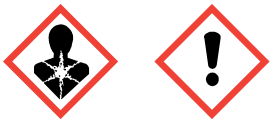
SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral)	:	Category 4
Skin sensitisation	:	Category 1
Specific target organ toxicity - repeated exposure (Oral)	:	Category 2

GHS Label element

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements : **Prevention:**

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
Red Phosphorus	7723-14-0	< 50
Tin sulphate	7488-55-3	<= 2

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

SECTION 4. FIRST AID MEASURES

General advice : Remove/Take off immediately all contaminated clothing.
Get medical attention.

If inhaled : Move the victim to fresh air.
Give oxygen or artificial respiration if needed.
Get immediate medical advice/ attention.
Never give anything by mouth to an unconscious person.

In case of skin contact : In case of contact with skin, wash affected area thoroughly with soap and water. In case of burns with phosphorous, shower in cold water for at least 10 minutes while removing clothes and shoes. Remove any phosphorus adhering to the skin with more water and douse with a 2% copper sulfate solution. Cover the burned areas with sterile dressings and keep the dressing moist. Get immediate medical attention. Removal of solidified, molten phosphorus should only be removed by qualified medical personnel.

In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.

If swallowed	:	If swallowed, DO NOT induce vomiting. Do not give anything to drink. Call a physician immediately.
Most important symptoms and effects, both acute and delayed	:	The possible symptoms known are those derived from the labelling (see section 2). No additional symptoms are known. The possible symptoms known are those derived from the labelling (see section 2). No additional symptoms are known.
Notes to physician	:	After a burn to the skin caused by phosphorus, any residual product adhering to the wound must be removed mechanically with a brush in order to prevent further burns or toxic effects through dermal absorption of yellow phosphorus. The wound must then be rinsed immediately with a commercial solution of 2% copper sulphate in order to neutralise any residual yellow phosphorous. Any such wound must be kept damp in all circumstances during movement of the victim for further medical treatment, so that any residual yellow phosphorus does not lead to further inflammation.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Foam
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Phosphorus oxides (eg Phosphorus pentoxide) Phosphorus pentoxide in air forms a dense, non-transparent, corrosive mist of phosphoric acid. Carbon monoxide Carbon dioxide (CO2) Burning produces noxious and toxic fumes. In case of combustion, yellow/white phosphorus is reformed, which may cause self-ignition of areas already extinguished. In order to avoid self-ignition, fire residues should be kept damp or under water.
Further information	:	Fire fighters should wear fire resistant protective clothing and NIOSH approved self-contained breathing apparatus. Water spray, water spray with detergent, sand or foam containing surfactants should be used for containing the fire. For safety reasons, gaseous extinguishing media or carbon dioxide must not be used. In case of fires, hazardous combustion gases such as oxides of phosphorous are formed. Fight fire from a

safe distance due to explosion hazard. Cover extinguished areas with 10 % copper sulfate or soda solution. Detergents may be added to the solutions.

Special protective equipment for firefighters : Self-contained breathing apparatus
In case of fire, use acid-resistant equipment / personal protective equipment.
Full protective suit

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : See: Exposure controls and personal protection.
Remove all spark producing devices or ignition sources. Wear proper personnel protective equipment. Dampen carefully and collect into suitable container for disposal. Do not allow to dry out.
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.

Methods and materials for containment and cleaning up : Dampen dust and place it in a properly closed receptacle and dispose of it safely.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Cover extinguished areas with 10% copper sulphate or sode solution. Detergents may be added to the solutions Avoid shock and friction.

Advice on safe handling : Use personal protective equipment.
Avoid breathing dust.
Avoid contact with skin and eyes.
Wash thoroughly after handling.
Store in a dry place.
Keep away from heat.
Store in original container.
Keep container tightly closed.
Avoid contact with skin, eyes and clothing.
Wash thoroughly after handling.
Avoid dust formation. Keep away from sources of ignition.
Lead off electrostatic charges.
Avoid impact, friction and accumulation of electronic charge.
Keep working area moist and well ventilated.
Ensure that dried product residues are re-dampened before transferring, handling or transporting.

Technical measures/Precautions	:	Handle under nitrogen, protect from moisture. Store contents under nitrogen. Keep container tightly closed. Protect from frost.
Materials to avoid	:	Do not store with strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Tin sulphate	7488-55-3	TWA	2 mg/m3 (Tin)	OSHA Z-1
		TWA	2 mg/m3 (Tin)	ACGIH
	Further information: Eye & Upper Respiratory Tract irritation, Headache, Pneumoconiosis, Nausea, varies			
		TWA	2 mg/m3 (Tin)	OSHA P0
		TWA	2 mg/m3 (Tin)	NIOSH REL
		TWA	2 mg/m3 (Tin)	ACGIH
	Further information: Pneumoconiosis (or Stannosis), varies			

Engineering measures : Local ventilation recommended - mechanical ventilation may be used.

Personal protective equipment

Respiratory protection : Use NIOSH/MSHA approved respirators following manufacturer's recommendations where dust or fume may be generated.

Hand protection

Remarks : Nitrile rubber gloves.

Eye protection : safety glasses/face shield

Skin and body protection : Flame-resistant clothing
Wear shoes with conductive soles.

Protective measures : Observe the usual precautions for handling chemicals.
Avoid prolonged or repeated contact with skin.

Hygiene measures : Use protective skin cream before handling the product.

Clean skin thoroughly after work; apply skin cream.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Colour	:	dark red
Odour	:	odourless
Odour Threshold	:	not determined
pH	:	Not applicable
Freezing point	:	not determined
Boiling point	:	not determined
Flash point	:	> 100 °C Method: Expert judgement
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Method: not specified
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	not determined
Relative vapour density	:	not determined
Density	:	1.37 - 1.47 g/cm3 (25 °C)
Bulk density	:	Not applicable
Solubility(ies) Water solubility	:	not tested.
Partition coefficient: n-octanol/water	:	not determined
Auto-ignition temperature	:	> 290 °C Method: VDI 2263 "Dust fires and explosions; Danger, Evaluation, Protection measures"
Decomposition temperature	:	> 75 °C Method: OECD Test Guideline 113 The data relate to the SADT (Self Accelerating Decomposition

Temperature) The substance or mixture is not classified self-reactive.
310 °C
Method: OECD Test Guideline 113

Viscosity
Viscosity, dynamic : not determined

Viscosity, kinematic : not determined

Explosive properties : Not explosive
Not explosive
Method: Regulation (EC) No. 440/2008, A.14

Oxidizing properties : Method: Expert judgement
not oxidizing The product does not contain organic peroxide-groups which result from either the manufacturing process or from added ingredients.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable

Possibility of hazardous reactions : Explosive reactions with oxidising agents such as potassium chlorate and/or peroxides.
At high temperatures small amounts of hydrogen phosphide are formed with water.
The substance or mixture does not emit flammable gases in contact with water.
Not corrosive to metals

Conditions to avoid : sparks
Thermal decomposition
ignition
shock
friction

Reactions with peroxides. Can cause explosive reactions with oxidizing agents such as potassium chlorate and/or peroxides.
At high temperatures small amounts of hydrogen phosphide are formed with water.

Incompatible materials : oxidants

oxidants

Hazardous decomposition products : Hydrogen phosphide
White/yellow phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Eye contact
Skin contact
Inhalation

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: no data available
Acute inhalation toxicity	:	Remarks: not tested.
Acute dermal toxicity	:	Remarks: not tested.

Components:

Tin sulphate:

Acute oral toxicity	:	LD50 (Rat): 2,207 mg/kg Method: OECD Test Guideline 401

Skin corrosion/irritation

Product:

Remarks: no data available

Serious eye damage/eye irritation

Product:

Remarks: no data available

Respiratory or skin sensitisation

Product:

Remarks: not tested.

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment	:	No information available.

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	No information available.

IARC	Not listed
OSHA	Not listed

NTP Not listed

Repeated dose toxicity

Product:

Remarks: not tested.

Experience with human exposure

Product:

General Information : The possible symptoms known are those derived from the labelling (see section 2).

Further information

Product:

Remarks: Frequent contact can lead to skin and eye irritation, especially if product is allowed to dry out
No data is available on the product itself.
The classification was made by the conventional (calculation) method of the CLP Regulation (EC) No 1272/2008.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: not tested.

Toxicity to daphnia and other aquatic invertebrates : Remarks: not tested.

Toxicity to algae : Remarks: not tested.

Toxicity to bacteria : Remarks: not tested.

Components:

Tin sulphate:

Toxicity to algae : EC50 (Skeletonema costatum): 0.2 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Persistence and degradability

Product:

Biodegradability : Remarks: This property is substance-specific and therefore cannot be given for the preparation.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: not available

Mobility in soil

no data available

Other adverse effects

Product:

Environmental fate and pathways : Remarks: no data available

Results of PBT and vPvB assessment : Remarks: no data available

Additional ecological information : no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : Yes -- If it becomes a waste as sold.

Waste Code : D001

Waste from residues : Small quantities may be treated in aerobic wastewater treatment systems. Larger quantities may be incinerated or landfilled after solidification in permitted systems.
Contain and dispose of waste according to local regulations.
Incineration in an approved, controlled furnace with combustion gas scrubbing and emission gas control.

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14. TRANSPORT INFORMATION

DOT not restricted

IATA not restricted

IMDG not restricted

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Red phosphorus	7723-14-0	1	2

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Red phosphorus	7723-14-0	1	2

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Reactivity Hazard

SARA 302 :

Red phosphorus 7723-14-0 50 %

SARA 313 : This product does not contain any toxic chemical listed under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986.

Clean Water Act

Contains no known priority pollutants at concentrations greater than 0.1%.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

This substance may be toxic to fish or aquatic organisms.
Do not allow to enter drains or waterways
Dispose of waste product or used containers according to local regulations.
Observe national and local legal requirements

Revision Date : 04/28/2015

This information is supplied under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and is offered in good faith based on data available to us that we believe to be true and accurate. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable to the material. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate for that use. No warranty, express or implied, is made regarding the accuracy of this data, the hazards connected with the use of the material, or the results to be obtained from the use thereof. We assume no responsibility for damage or injury from the use of the product described herein. Data provided here are typical and not intended for use as product specifications.

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