

Safety Data Sheet (SDS)

Issued on 2014-04-09

Revised on 2015-05-07

1. Identification

Product

Description PANA SPRAY PLUS

Order code Z182600

Company Information

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Emergency contact No. —

Recommended use and usage restrictions Lubricant

2. Hazard identification

Significant hazards and effects

Specific hazards

GHS classification N/A

Physical and Chemical hazards

Explosives N/A

Flammable/Ignitable gas N/A

Flammable/Ignitable aerosol Classification 1

Burnable/oxidized gas N/A

High-pressure gas N/A

Ignitable liquid Classification 2

Flammable solid N/A

Autoreactive chemical N/A

Pyrophoric liquid N/A

Pyrophoric solid N/A

Self-heating chemical unclassifiable

Water-reactive flammable chemical unclassifiable

Oxidizing liquid unclassifiable

Oxidizing solid N/A

Organic peroxide unclassifiable

Metal-corrosive chemical unclassifiable

Hazards to health

Acute toxicity (oral) unclassifiable

Acute toxicity (percutaneous) unclassifiable

Acute toxicity (inhalation : gas) Out of category

Acute toxicity (inhalation : vapor) unclassifiable

Acute toxicity (inhalation : dust, mist) unclassifiable

Skin corrosivity/Irritation unclassifiable

Serious damage to eyes/Eye irritation Classification 2A

Respiratory sensitization unclassifiable

Skin sensitization unclassifiable

Germline mutagenicity Classification 1B

Carcinogenicity unclassifiable

Reproductivity	Classification 1A
Effects on breast-feeding	unclassifiable
Target organ/Systemic toxicity (single exposure)	Classification 3 (Airway irritation, Anesthetic action)
Target organ/Systemic toxicity (repeated exposure)	Classification 1 (Liver) Classification 2 (Nerve)
Hazards to suction aspiration	unclassifiable
Hazards to environment	
Hazards to water environment (acute)	unclassifiable
Hazards to water environment (chronic)	unclassifiable

Labeling elements

Pictogram



Signal word

Danger

Hazard statements

Hazard and toxicity information

(Airway irritation) Possibility of irritation to airway/
Possibility of sleepiness or dizziness
Possibility of inherited disorders
Highly-ignitable liquid and vapor
Highly flammable/ignitable aerosol
Serious eye irritation
Possibility of adverse effect on reproductivity/fetus
Organ <liver> damage from long-term/repeated exposure
Possibility of organ <nerve> damage from long-term/repeated exposure

Precautionary statement

Prevention

Wear protective globes and glasses/mask.
Use an explosive-proof electrical/ventilation/lighting equipment.
Earth the container and receiver.
No eating and smoking at the time of use.
Read safety precautions before use.
Handle it in the open air/well-ventilated area.
Pressurized container : Do not punctuate/burn the container.
Use a non-sparkling tool.
Obtain the operation manual before use.
Wash hands thoroughly after use.
Take preventive measures against electrostatic discharge.
Avoid heat, spark, flame and ignition source - No smoking.
Use protective equipment if necessary.
Do not inhale the gas/mist/vapor/spray.
Airtight the container.
Do not spray the lubricant toward a fire, high-temperature incandescent body.

Response

In the event of fire, use carbon dioxide/powder/foam fire-extinguisher or drying sand.
Eye contact : Thoroughly wash eyes for several mins. If you wear lenses, remove them, and continue to wash the eyes.
If the pain persists, seek the help of a doctor.
When feeling sick, contact a doctor.
When feeling sick, seek the help of a doctor.

Eye contact	<ul style="list-style-type: none"> ▪ Wash eyes with clean water for several mins. If you wear contact lenses, remove them, and continue to wash the eyes. If the pain persists, seek the help remove them, and continue to wash the eyes. If the pain persists, seek the help of a doctor.
Ingestion	<ul style="list-style-type: none"> ▪ Get the person vomit by giving him/her a plenty of water. Do not give him/her anything when he/she is unconscious. Seek medical attention.
Most important symptoms and effects, both acute and delayed	<ul style="list-style-type: none"> ▪ No information
Protection of first-aiders	<ul style="list-style-type: none"> ▪ No information
Notes to physician	<ul style="list-style-type: none"> ▪ No information

5. Fire-fighting measures

Suitable extinguishing medi	<ul style="list-style-type: none"> ▪ Carbon dioxide, foam/powder fire-fighting agent, dry sand. ▪ Explosion-producing with an aerosol container at a fire site.
Specific extinguishing methods	<ul style="list-style-type: none"> ▪ Smother a fire with fire extinguisher. Use the specified fire extinguisher. Immediately remove any inflammable items from the surrounding area. Extinguish the fire from the windward side not to inhale toxic gas. Extinguish the fire at a distance for the possibility of producing an explosion with aerosol container at a fire site. Pour water and cool the product container that is subjected to high temperature. In case of a larger fire, it is effective to use a foam fire extinguisher and block out the air.
(Fire in the surrounding area)	<p>Immediately move the container to a safe place. If the container is not movable, sprinkle water on it and the surrounding</p>
Special protective equipment for firefighters	<ul style="list-style-type: none"> ▪ Wear a proper protective cloth (heat-resistant cloth, protective glasses etc.) and use a ventilator.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	<ul style="list-style-type: none"> ▪ Wear a proper protective cloth. <p>Take action from the windward side. Turn the leakage site of container up and let the gas out completely.</p> <p>Immediately remove any inflammable items from the surrounding area. Evacuate people on the downwind and close the area to all unauthorized people.</p> <p>Prepare a fire extinguisher in case of fire.</p> <p>Collect the requid by using an equipment which is not made of spark-producing materials on impact/with statics.</p> <p>In case of massive generation of vapor, reduce the generation by Collect the leakage in an airtight container and absorb the residue in a iner absorbent. Move them in a safe place.</p> <p>In case of small amount : Supply earth sand/waste cloth to absorb the lubricant. Collect it in an empty</p> <p>In case of large amount : Use soil and sand to stop the flow of leaking lubricant and lead the lubricant to a safe area. Cover the liquid surface with foam and collect as much of the liquid as possible in an empty container.</p> <p>Do not discharge leakage into sewers, drains, etc.</p> <p>Dispose of waste in accordance with applicable regulations.</p>
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7. Handling and storage

Handling

General Precautions

- Due to countermeasures against static electricity, earth equipments on the ground. Electric(al) apparatus must be explosionproof structured.
Wear a proper protective cloth.
Use a spark-unproducing tool.

Advice on safe handling

- Handle it in a well-ventilated place.
- No flame, spark and high-temperature substance around the area. Do not roll over/drop/impact on the container. Also, do not drag it. Obtain the instructions for use before using. Read the instructions carefully until you fully understand it. No eating and smoking when using this product. Do not spray the lubricant toward a fire, high-temperature incandescent body.
- Pressurized container : Do not punctuate/burn the container. Use the product with user's back to the wind to prevent him/her from being exposed.
- No flame, spark and high-temperature substance around the area. The container may explode under high temperature condition. Wash hands thoroughly after use. Keep it away from oxidant.
- As a general rule, handled at room temperature. Keep liquid/foreign particle ingress.

Storage

Conditions

- Keep out of reach of children. Avoid direct sunlight and store it in a well-ventilated place. Store it away from moisture because of fear of liquid leakage or explosion from/of rusty container. Keep it away from perchloric acid/hydrogen peroxide water/sodium peroxide/chromic acid/nitric acid/oxidant etc. Avoid flame and heat. Should not be subjected to temperatures exceeding 40°C Electric(al) apparatus used in the storage area must be explosionproof structured. Earth the apparatus on the ground when used. Follow other relevant regulations such as Fire defense law, Industrial Safety and Health Act.

Packaging materials

- Container should be in accordance with High Pressure Gas Safety

8. Exposure controls/personal protection

Equipment measures

- Equipment must be explosionproof structured. Provide an exhaust system for air circulation. Keep heat and ignition source away from the handling area. In case of indoor work, provide a specific equipment such as local exhaust system to prevent an operator from being directly exposed.

Components with workplace control parameters

Component	Controlled concentration (SHA)	Allowable concentration		
		Japan society for occupational health	ACGIH(TLV-TWA)	ACGIH(TLV-STEL)
Ethanol	N/A	N/A	1,000ppm	N/A
LPG	n-butane 500ppm	n-butane 800ppm	N/A	N/A

Protectors (if necessary)	
For respiration	Wear a (organic) gas mask, dust mask, air-supplied respirator (in an enclosed space)
For hands	Solution-resistant protective gloves
For eyes	Protective glasses/mask
For skin/body	Protective cloth, Boots, (solution-resistant) Apron, etc.
Proper hygiene measure	No eating and smoking while working. Wash hands thoroughly after use.

9. Physical and chemical properties

	Liquid	Spray
Status	Fluid	Gas (under atmospheric pressure)/ Fluid (in a pressure)
Appearance	Clear and colorless	Clear and colorless
Odor	Alcohol	Odiferous
pH	N/A	N/A
Melting point	-114.5°C(as ethanol)	-187.7~-138.4°C
Boiling point	78.32°C(101.325KPa)(as ethanol)	-42.1~-0.5°C
Firing point	13°C(airtight-type)(as ethanol)	-104.4~-73.8°C
Ignition point	439°C(as ethanol)	405~550°C
Explosive range	No data	1.8~9.5vol%
Vapor pressure	No data	0.248~1.275MPa (40°C)
Vapor density	No data	1.895~2.538kg/m ³ (1MPa,15.6°C)
Specific gravity	0.803 (20°C)	0.551 (15°C)
Solubility	easily soluble in water	soluble in water
Octanol/water partition coefficient	-0.30(lowPow)(as ethanol)	No data
Decomposition temperature	No data	No data
Others	No data	No data

10. Stability and reactivity

Chemical stability	Explosion-producing at 40°C or greater. Pressure in the container at room temperature : approx. 0.43MPa
Possibility of hazardous reactions	Reactive with incompatible hazardous substances such as oxidant, and posing a risk of fire/explosion. Reactive with plastic, rubber, coating agent.
Conditions to avoid	Storage in conditions of heat and humidity. Use close to fire. Contact with incompatible hazardous substances.
Incompatible materials	Strong acid, Strong alkali, Oxidant, Calcium hypochlorite, Silver oxide.
Hazardous decomposition product	generates hazardous gas (e.g. CO, nitrogen oxide) by burning.

11. Toxicological information

Acute toxicity (oral)	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) Rat LD60:6.2-17.8g/kg Rat LD50>5/kg Rat LD50:13.7g/kg
Acute toxicity (percutaneous)	<ul style="list-style-type: none"> ▪ (Product data) N/A n-butane 800ppm
Acute toxicity (inhalation : gas)	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : propane) Guinea-pig LC50(2hrs)>55000ppm

Guinea-pig LC50(4hrs)>38890ppm(ACGIH 7th, 2001)

Acute toxicity (inhalation : vapor)	<ul style="list-style-type: none"> ▪ (Ingredient data : n-butane) Rat LC50:277374ppm/4h ▪ (Product data) N/A (Ingredient data : ethanol) Rat LC50:2000ppm/10h (31600ppm/4h)
Acute toxicity (inhalation : mist)	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) Rat LC50:63000ppm/4h(118mg/L)
Skin corrosivity/Irritation	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) OECD TAG404 test Rabbit not irritating American guidelines Rabbit not irritating (Ingredient data : propane) For ACGIH(7th, 2001), slight erythema was transiently detected on human., however the primary skin irritation was negligible. Therefore, classified as "out of category"
Serious damage to eyes/Eye irritation	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) OECD TAG404 test Rabbit moderate Draize test Rabbit moderately <p>recovers from daamage to the corneal epithelium and conjunctival congestion in 1-2 days.</p>
Respiratory sensitization or Skin sensitization	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) No skin sensitization detected by animal testing
Germline mutagenicity	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) Dominant lethality of rat/mouse and aneuploidy induction of mouse germ cell
Carcinogenicity	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) According to IARC, classified as "group 1" for the reason of being carcinogenic as an alcoholic beverage, however, this recognizes the relationship between alchhol and esophageal/liver cancer based on the epidemiological studies of people who have habitual intake of alchol. ACGIH classifies ethanol of adverse factor in a working environment as A4 (noncarcinogenic to humans).
Reproductivity	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) Many cases of fetal harm/malformation caused by habitual intake of alchol are being reported.
Specific target organ / Systemic toxicity (single exposure)	<ul style="list-style-type: none"> ▪ (Product data) N/A (Ingredient data : ethanol) Oral ethanol intake could cause acute poisoning to central nerve system, which results in death. Intake of 5000ppm (9.4mg/L) causes airway irritation, stupor, sleep disorder. (Ingredient data : propane) ACGIH refers to anesthetic action about the impact on people.

	(Ingredient data : n-butane)	ACGIH and Japan society for occupational health refer to anesthetic action or central cerves system depression when inhaling high level.
Specific target organ/Systemic toxicity (repeated exposure)	▪ (Product data) N/A (Ingredient data : ethanol)	Classified as "class 1 (liever)" based on the reference of "Long-term high alchol intake causes damage to almost all organs, however, a liver will be the worst affected. The damage starts with steatosis and results in cirrhosis through stages of necrosis and fibrosing."Also classified as "class 2 (nerve)" based on the reference of "alchohoic withdrawal symptoms (tremor, enilensy, confusion)"
Hazards to suction aspiration	▪ (Product data) N/A	

12. Ecological information

Hazards to water environment (acute)	▪ (Product data) N/A (Ingredient data : ethanol)	Classified as "out of category" based on 48hrs LC50=5463.9mg/L (crustacea (daphnia)).
Hazards to water environment (chronic)	▪ (Product data) (Ingredient data : ester lubricant) (Ingredient data : ethanol)	N/A Biodegradability>70%(Test:CEC-L-33-A-93) Classified as "out of category" for the reason of low acute toxicity and not poor water solubility (aqueous solubility =
Others	▪ No information	

13. Disposal considerations

Completely remove gas at the time of disposal.		
Waste from residues	▪	After removing gas from the container completely, request an industrial waste disposal professional licensed by the local government for disposal of the residual liquid. Or after punctuating the container and adsorbing the liquid with diatom earth etc, burn it little by little in an open incineration system.
Contaminated containers	▪	Segregate the waste after using up the content. Do not throw it into the fire for the reason of risk for explosion even after using up the content.

14. Transport information

* See "7. Handling and Storage"		
Specific cautions and conditions for transportation		At the time of transportation, maintain a constant temperature of 40°C or less and load up with it not to fall/drop/be damaged. Adopt measures to prevent collapsing.
National regulations		
Surface transportation		Follow Fire defense law as well as other relevant transport regulations.
Maritime transportation		Follow "Ship Safety Act".
Air transportation		Follow "Aviation law".
International regulations		
UN classification		IMDG code : class 2
UN No.		1950

15. Regulatory information

Industrial Safety and Health Act	Ignitable substance, Flammable gas, Notifiable substances (Ethanol, Butane)
Act on Port Regulations	Enforcement regulation, provision 12 : Hazardous material (Ignitable liquid, High-pressure gas)
Ship Safety Act	High-pressure gas, Low-flash-point ignitable liquid
Aviation Law	High-pressure gas, Ignitable liquid
High Pressure Gas Safety Act	N/A (Liquefied gas, Flammable gas) However, follow the notice from government gazette and High-act.
Fire defense law	Provision 2 Hazardous materials, Category 4 alcohol
Shipping and storage regulations for dangerous goods	IMDG code : class 2.1 (UN No. 1950)
Water Quality Pollution	Effluent standard : normal-hexane extracts (mineral oil etc.) 5mg/L : Ester lubricant
Export Trade Control Order	Annex 1, 16. Catch all control : Ester lubricant
Poisonous and Deleterious Substances Control Law	N/A
PRTR	N/A

16. Other information

Informative literature	Ethanol MSDS Ester lubricant MSDS Liquefied petroleum gas MSDS All data of object substances under PRTR All data of object substances under Industrial Safety and Health Act All data of object substances under Poisonous and Deleterious Substance Control Law
Remarks	There may be a lack of sufficient information for the reason that all documents and literatures are not searched. And release of new findings or revision of conventional theory could change this information. This MSDS is not intended to ensure completeness/accuracy of information of information. Therefore, the product requires extreme caution in handling. The adequacy will be determined at your own risk.
